Yellow
9 7/8 + 6 1/2
Lavender 3/4
9 3/4 + 6

~~Ed 50~~

A GROUP OF DENDROBIUM PHALÆNOPSIS. (*See page* 355).

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1911
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THE

ORCHID REVIEW

An Illustrated Monthly Journal

DEVOTED TO ORCHIDOLOGY

VOLUME XIX

1911

Mo. Bot. Garden
1912

London:

MARSHALL BROTHERS. LTD., KESWICK HOUSE, PATERNOSTER ROW, E.C.

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HEAD OF THE PIONEER FIRM OF ORCHID HYBRIDISTS,

MESSRS. JAMES VEITCH AND SONS, CHELSEA,

AND VICE-CHAIRMAN OF THE ORCHID COMMITTEE OF THE

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An Illustrated Monthly Journal.

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THE ORCHID REVIEW.

VOL. XIX.] *JANUARY*, 1911. [No. 217.

EVENTS OF 1910.

A YEAR of steady progress. Such, we think, must be the verdict after a survey of the leading events of the past year. A large number of new hybrids have flowered, a few novelties have been introduced from abroad, and the interest in the various meetings and exhibitions has been fully maintained. The great annual Shows at the Temple and at Holland House were finer than ever, and we may mention the two Shows held in connection with the International Exhibition at Brussels, and one in the United States, at which Orchids were well represented.

NOVELTIES.

Foremost among the novelties we must note the distinct and striking Anguloa Cliftoni, which was exhibited by Messrs. Charlesworth & Co., and received a First-class Certificate from the R.H.S. Singularly enough it appeared quite unexpectedly, and in very few examples, though more will probably be imported. Messrs. Charlesworth obtained a similar award for the beautiful albino Cattleya Lawrenceana Mary-Regina, and for Sobralia Charlesworthii. Messrs. Sander & Sons obtained a single plant of the remarkable Phaius Cooperi, which first obtained a Botanical Certificate from the R.H.S., and afterwards an Award of Merit. It is probably Malayan, but its origin is only vaguely known. This firm has also introduced a number of interesting Orchids from Peru, through their collector Mr. Forget, among which we may mention the beautiful Oncidium Sanderæ, an ally of O. Papilio, and Houlletia Sanderi, which obtained Awards of Merit from the R.H.S., also Lycaste peruviana and Brassia Forgetiana, which received Botanical Certificates, with a few others. Cynorchis Morlandii is an East African species which flowered at Kew, and several other species from various collections have been described.

HYBRIDS.

Novelties among hybrids have been numerous, and we can only mention a few of them, beginning with Oncidioda Charlesworthii, the new generic hybrid raised by Messrs. Charlesworth & Co., from Cochlioda Nœtzliana and Oncidium incurvum, to which a Certificate of Appreciation was given by the R.H.S. Other striking generic hybrids are two Odontiodas raised

by M. Ch. Vuylsteke, from his original O. Vuylstekeæ, namely O. King George V., which received a First-class Certificate at the Temple Show, and O. Rosy Gem, which gained an Award of Merit. O. St. Fuscien, from M. Henri Graire, also received a First-class Certificate, while O. Ceciliæ, from R. G. Thwaites, Esq., gained an Award of Merit. Twelve other new Odontiodas have made their appearance, namely O. beechensis, Corneyana, Craveniana, and Diana, from J. H. Craven, Esq., O. Seymourii and Wilsoni from R. G. Thwaites, Esq., O. Leeana from W. R. Lee, Esq., O. nevense from W. Thompson, Esq., O. Stewartii from M. Ch. Vuylsteke, and O. Seuenacca from de Barri Crawshay, Esq. Odontioda alone might be taken as evidence of the rapid progress that is being made. Other striking things are Odontonia Lambeauiana, raised by Messrs. Peeters, O. Vuylstekei by M. Ch. Vuylsteke, Læliocattleya Oberon, by Lt.-Col. Sir George L. Holford, Sophrocattleya Roupelliana, by R. G. Thwaites, Esq., with numerous showy Cattleyas, Cypripediums, blotched Odontoglossums, &c., from various collections. The list includes many secondary hybrids and varieties of older hybrids, a considerable number of which received Certificates of various kinds.

CERTIFICATED ORCHIDS.

First-class Certificates were awarded by the R.H.S. to thirty-six Orchids, of which over two-thirds were hybrids. These included nine Cattleyas, six Cypripediums, four each of Odontioda and Odontoglossum, three Miltonias, two varieties of Vanda cœrulea and two of Lycaste Skinneri, with one each of Anguloa, Læliocattleya, Phaiocalanthe, Phalænopsis, Sobralia and Sophrocattleya. The Awards of Merit total eighty-four, and include Cattleya and Odontoglossum eighteen each, Cypripedium twelve, Læliocattleya nine, Odontioda five, and Miltonia three, while Calanthe, Dendrobium, Oncidium, and Sophrocattleya each have two, the remaining eleven belonging to as many different genera. Twenty-three Botanical Certificates were also given and nineteen Cultural Commendations, the latter to plants showing a high standard of cultivation. A large number of Certificates were given by the Manchester Orchid Society, but these we have not analysed.

LOSSES DURING THE YEAR.

During the year several well-known Orchidists have passed away, the list including Baron Sir Henry Schröder, the possessor of one of the finest collections ever brought together, and which is happily still intact; Sir Charles Strickland; D. O. Drewett, the raiser of a good many hybrid Cypripediums; E. Rogerson; Georges Mantin, the raiser of Cattleya Mantinii, Stanhopea bellaerensis, and many others; W. Boxall, one of the most successful Orchid collectors; W. Denning, who formerly had charge of Lord Londesborough's collection; James McBean and H. A. Tracy, two

well-known nurserymen, and, since most of the above was written, his Honour Judge F. A. Philbrick, an old Orchid amateur after whom Lælio-cattleya Philbrickiana was named.

THE COMING YEAR

is full of promise. Orchids are becoming increasingly popular, and this we believe is largely due to the rapid progress made in hybridising and selection, which has resulted in an enormous advance during the last decade. There are also indications of a welcome revival in the popularity of the wild species, which afford such abundant material to select from. We can look forward to the events of the coming year with confidence. It now remains to thank our readers for their continued support, and to invite their co-operation in making the ORCHID REVIEW of the widest interest and utility. In conclusion we wish them all A HAPPY NEW YEAR.

IMPORTING ORCHIDS BY POST.

WE have several times been asked by correspondents abroad for advice as to the best means of packing Orchids for transmission to Europe, and have given a few general instructions. We have now received from Dr. Hans Goldschmidt, Essen-Ruhr, Germany, some particulars of a method of sending small parcels by post, which we believe will be read with interest, for with the rapid means of transit now available a good many Orchids are received from friends abroad. Dr. Goldschmidt has had some personal experience, and it will be seen from a notice on another page that he is desirous of obtaining plants of the Anœctochilus group, and others in which he is greatly interested. He has also sent a sample of the materials employed, which seem admirably adapted to the purpose. He writes:—

"The simplest and safest means of forwarding small living plants from tropical countries is by post as 'sample of no value.' I have had good experience, especially with the packing of Orchids of all kinds, including the very delicate terrestrial Orchids of the Anœctochilus group. The packing should be done as follows:—

"It is best to pack the Orchids in sawdust, which should only be slightly moistened. Avoid using it too wet. By no means should it be so damp that even a drop of moisture comes out when the packet is pressed tightly. Slightly moistened cocoanut fibre, or the brown fibrous earth found in the leaf axils of many tropical palms, can also be used instead of sawdust. The earth must, of course, be broken up and sifted.

"The small plants are well surrounded with this material, and then wrapped several times in gutta-percha tissue or oiled silk, so that it is practically impossible for them to come into contact with the air. This should be tied up with string or bast, so as to make a firm parcel, and then wrapped in one or two layers of parchment-paper. Several plants can often

be put into one sample bag. Small Orchids with bulbs can also be despatched in the same manner.

"Plants with tender, fragile rootstocks and stems should be carefully and firmly tied to sticks before wrapping them up, so as to avoid breaking them when being packed. The more carefully the packing is done, the more likely are the plants to arrive in good condition, even after a journey of four to eight weeks.

"Having put the packet in the sample bag, it is advisable to place a sheet of cardboard on each side, so that the plants cannot be damaged when the post-mark is applied. It is also necessary to ascertain beforehand the conditions under which they can be posted, and the limit of weight. Here, as is well known, the sample when ready for despatch must not exceed 350 grains (12⅓ ounces) in weight, otherwise it will not be accepted by the post-office officials.

"If circumstances permit, it is advisable to pack the small plants at once when taking them out of the ground, or very soon afterwards. This precaution is very essential when it is a question of thin-leaved Orchids without bulbs, such as Anœctochilus, Goodyera, Physurus, &c. The weight should also be immediately ascertained by means of a light pair of scales, as an excess weight can easily be avoided when packing. Should, however, the packing be only provisionally done and the packet afterwards untied, tender plants are easily damaged."

AN AMATEUR'S COLLECTION.

WE commenced our collection of Orchids over seven years ago, and after seeing various collections purchased a batch of large plants of Odontoglossum crispum from a well-known grower, afterwards adding batches of various kinds of imported and semi-established plants from various sources. We have flowered a fair number of typical Odontos and hybrids, but it is more satisfactory to purchase some fine specimens and divide for propagation than to rely on imported plants. We have a Cool house (44ft. by 9ft), and a Cattleya house (25ft. by 15ft.)—both houses being entered from a corridor (16ft. by 5ft.), and which contains a potting and a work bench.

The Cattleya house was erected eighteen months ago, and has a large centre box filled to the level of the brickwork with stones, rubble, &c., the shelves above being arranged in steps and filled chiefly with Cattleyas. A fair number of C. labiata are now in flower, also C. Mantinii from the Bank House collection, the pretty C. Mantinii nobilior, and a very deep form of C. Bowringiana. One plant of C. labiata has three immense flowers, of perfect shape and good colour, and measuring six inches across the petals (not stretched out). The petals are 2¾ inches broad, the throat 2¼ inches, and the lip 2 inches. Messrs. Keeling & Sons, from whom I got mine

as a semi-established plant, say they have flowered one similar, getting an A.M. in Manchester. In sheath are C. Trianæ, Mossiæ, Læliocattleya Dogas, intermedia and intermedia alba × Schrœderæ alba. The Trianæ have splendid stout pseudobulbs, with sheaths showing spikes at their base, but the plants have secondary growths, and we wonder whether both growths will flower on completion or simply go on growing again. A noted grower of Cattleyas says they are strong enough to flower on both growths.

On the left side stage quite a number of Cypripediums are in bud and flower, well represented with the old favourites C. insigne Sanderæ, Harefield Hall var., and Wm. Millie Dow, and other varieties of insigne and hybrids, with C. × Leeanum Clinkaberryanum, giganteum, G. S. Ball's var., and the pretty C. Arthurianum. C. Maudiæ magnificum flowered in August, and now has a good spike. A plant of C. callosum Sanderæ, Jules Hye's var., keeps at a standstill whilst a portion of it grows well.

At the coolest end are some Odontoglossum seedlings, varying from the tiny state up to those with the first bulb. They are growing nicely, being placed over a large tank, which seems to be an ideal place for them when small. On the right side are a batch of Cattleya Harrisoniana plants which have flowered well, quite a number having seven flowers to their growths. Two Odontoglossum grande were quite a blaze with flowers, another plant having twenty-nine buds. One plant had thirty-six flowers, six inches across, on three leads (photo enclosed). These plants were got semi-established six years ago with one lead each, and grew quite as well in the Cool house, but did not flower the same as last year and this year in the Cattleya house. We pot them in a mixture of osmunda two parts, leaves one part, and moss one part, with a little dried cow manure, afterwards top-dressing half way down the pot, and the year following removing them from the pot and replacing the lower half of the compost with new, and if they require larger pots simply packing new compost round the sides also. Such a method does not disturb the plants, and in their growing period we give liberal doses of liquid manure.

Cymbidium Lowianum, Tracyanum, Lycaste Skinneri, and three large pans of Cœlogyne cristata grow splendidly at the coolest position. The Cattleya house is shaded only with calico, arranged as sliding blinds, and ventilators are fitted at the top, ends and bottom, the general conditions resulting in a breeziness of the atmosphere which, combined with good light, seems so far very suitable for Cattleyas and other plants.

Our Odontoglossum house is rather crowded, and the stages appear to be banks of foliage, though at present there is a scarcity of bloom, only a dozen fine spikes of O. crispum being out; but a fine lot of spikes are on the point of opening, including O. Harryano-crispum with a fine spike of fourteen buds, O. loochristiense, O. eximium, and spotted crispums. The O.

Rosii majus are chiefly in bud, and instead of crowding a number of small plants in one pot we pot each plant separately, and from the size of the bulbs and the fine bloom which results it is worth the trouble. A fine plant of Oncidium macranthum has a spike fifteen feet long, and is just throwing out side branches. Odontoglossum Harryanum and Lælia præstans grow nicely, the latter having three fine blooms. Last year we grew it in Intermediate temperature, and the result was poor growths and flowers. Dendrobium Jamesianum and D. Falconeri do splendidly and flower well.

Our Odontoglossum seedlings have eighteen spikes amongst them, and a few weeks ago we had a fine example of retrogression between two flowers of O. Fascinator × crispum Starlight. One was a fine bloom, profusely spotted, and the other very small with three spots on each sepal. The few Cochlioda hybrids flowered have been rather disappointing, and I fancy there should be some fine hybrids produced between the richly-coloured Odontioda Charlesworthii, Vuylstekeæ, and the fine red Odontoglossum eximium varieties and spotted crispums. Increased size should also result. I only regard primary Cochlioda hybrids as suitable subjects for the hybridist. It is surprising the difference in growth of seedlings from the same cross. Some we have at the flowering stage, others which have not yet formed their first bulbs, and some will neither move up nor down.

At the coolest end of the Cattleya house, near the ventilator, is a fine batch of Dendrobium Wardianum giganteum which were imported two years ago, and they are a surprise packet for our visitors, and one gardener described them as being like knob-sticks (walking-sticks). I wonder if the tallest growth is a record? It measures 4ft. 3in. in height, and also has a finished secondary growth of two feet. Not only do they beat the native growths in length, but they do so in thickness and shortness of stem between the flower nodes; evidently the treatment must suit them better than in their native hills. We pot with Odontoglossum compost, *i.e.*, osmunda two parts, leaves one part, and moss one part. In their growing season they occupy the lightest place in the Cattleya house, and get the sun from about three o'clock in the afternoon, and, being under the ventilator, get abundance of air as well, and plenty of liquid cow-manure on watering them. Last year they were a show when in flower, and two plants had flowers 5ins. across.

I have stated the composition of our Odontoglossum compost, and when potting we place the crocks edgeways instead of flat, and any roots of the plant which, from their length, would double under the compost, we cut so as to nicely go down the pot sides. The roots, when bent, only rot, but when cut, they push a number of small roots from the remainder. We treat tiny seedlings in the same way, and, instead of being checked, they rush along.

The Odontoglossum house is fitted with top, end, and bottom ventilators, and for shading in summer we use a mixture of flour and whiting on the glass, as well as calico blinds.

I read Dr. Miles Johnston's article on Cypripediums, and several plants I have had from him were exceedingly well-grown. His treatment of C. bellatulum, concolor Sanderæ, and Charlesworthii is well worth copying.

S. RILEY.

NOMENCLATURE OF MULTIGENERIC ORCHID HYBRIDS.

THE last issue of the *Journal of the Royal Horticultural Society* (pp. 405—408) contains the report of the Committee appointed to consider the question of the nomenclature of multigeneric Orchid hybrids, from which the following is condensed.

The question of the nomenclature of horticultural varieties and of hybrids of garden plants has been a vexed one for many years, and perhaps particularly so in relation to Orchids. In view of the fact that the raising of hybrid Orchids connecting many genera is now probable, . . . the Orchid Committee of the Royal Horticultural Society considered that the time had arrived when some definite system of nomenclature, which should be at once simple, euphonious, and distinctive, should be adopted, internationally if possible. The Council therefore appointed a Committee to consider the question, consisting of Msssrs. J. Gurney Fowler (Chairman), N. C. Cookson, de Barri Crawshay, J. O'Brien, H. J. Veitch, Dr. A. B. Rendle, E. A. Bowles, W. Fawcett, C. C. Hurst, R. A. Rolfe, and F. J. Chittenden (Secretary). Several meetings were held, and a preliminary report was drawn up and sent to well-known botanists and Orchid specialists all over the world, and after their replies had been considered the following recommendations were submitted to the Council :—

1. The name of every Orchid hybrid should consist of two parts, viz., a generic and a specific name, as at present.

2. The existing bigeneric and trigeneric combinations used as generic names should be maintained. It is desirable that these names should be written without hyphens.

3. Future generic names of hybrids combining two genera should be formed by combining parts of the names of the genera combined in the hybrid.

4. Future multigeneric hybrids (combining three or more genera) should be given a purely conventional name consisting of the name of some person eminent as a student or grower of Orchids, terminated by the suffix "ara."

5. A separate generic name should be coined for each distinct combination of genera. Thus, Brassocattleya × Epilælia, Brasso-epidendrum × Læliocattleya, and Brassolælia × Epicattleya would all be

known by one name—*e.g.*, Adamara—while a second name—*e.g.*, Linneara—would need to be coined for Dialælia × Brassocattleya, and this name would stand for all combinations of the four genera, Diacrium, Lælia, Brassavola, and Cattleya.

6. The specific name should preferably be of the Latin form, and should in all cases be preceded by the sign × ; where necessary a varietal name may be attached. This suggestion is made in order that combinations such as Læliocattleya × Doris superbissima may be avoided.

7. Every endeavour should be made to secure the adequate registration of the parentage of all hybrids, so that there may never be any doubt concerning the combinations indicated in the names.

8. It is not desirable that existing names should be changed.

The Committee feels sure that by adopting the recommendations set forth above, simple, euphonious, and distinctive names may be coined which will be convenient for ordinary use and not liable to be confounded with existing generic names.

These recommendations were approved by the Council, subject to their ratification by the International Congress of Horticulture to be held at Brussels.

A list of existing bigeneric hybrids is appended to the report, these agreeing with the list given at pp. 80, 82 of our sixteenth volume, with two subsequent additions, Miltonioda, derived from Miltonia and Cochlioda, and Oncidioda, from Oncidium and Cochlioda. The two trigeneric hybrids are given as Brassocattlælia, from Brassavola, Cattleya and Lælia, and Sophrolæliocattleya, from Sophronitis, Cattleya and Lælia, instead of Brassocatlælia and Sophrocatlælia, as in our list, but the latter, we would point out, is inadmissible. A quadrigeneric hybrid between Sophronitis, Brassavola, Cattleya and Lælia is mentioned as not yet bloomed or named.

A note is appended to the Report to the effect that the foregoing recommendations may be subject to slight alterations when the text of the findings of the Brussels Conference appears.

A subsequent note (*Proceedings*, pp. xcvi.-xcvii.) points out that Dr. A. B. Rendle and Mr. E. A. Bowles were the delegates from the Royal Horticultural Society to the Horticultural Congress at Brussels, at which the whole question of the Nomenclature of garden plants came under consideration, and they report that it was decided to adopt the rules of botanical nomenclature adopted by the Vienna Congress of 1905, with some modifications and additions as regards horticultural varieties and hybrids of cultivated plants. A provisional summary is given, but it is remarked that the Rules of Nomenclature agreed to at the Congress are not yet published. It is, however, hoped to give the precise wording of the findings in due course.

PAPHIOPEDILUM INSIGNE GIGANTEUM.

ON December 15th, 1896, a remarkable Cypripedium was exhibited at a meeting of the R.H.S. by E. Ashworth, Esq., Harefield Hall, Wilmslow, and by the late Major Mason, The Firs, Warwick, under the name of Cypripedium insigne giganteum (*Gard. Chron.*, 1896, ii. p. 766: *O.R.*, v. pp. 30, 31). A flower was sent to us by the former gentleman, and was

Fig. 1. PAPHIOPEDILUM INSIGNE GIGANTEUM.

described as follows:—"An enormous form of this useful old species, presumably out of recent importations. The dorsal sepal is over $2\frac{3}{4}$ inches in diameter, and the petals measure $5\frac{3}{4}$ inches from tip to tip, all the other parts being of corresponding development. In general character it somewhat resembles C. i. Chantini" (*O.R.*, v. p. 2). In the following autumn it

was exhibited at a meeting of the Manchester Orchid Society by S. Gratrix, Esq., and received an Award of Merit (*l c.*, p. 373). Shortly afterwards it leapt into notoriety. On December 13th, 1898, a well-bloomed plant was exhibited at a meeting of the R.H.S. by E. Ashworth, Esq., as C. i. Harefield Hall var., and received both a First-class Certificate and a Cultural Commendation ((*l.c.*, vi. p. 30), while First-class Certificates were given to it by the Manchester Orchid Society on three occasions, on February 9th, 1889, when exhibited by the late Mrs. Briggs-Bury (*l.c.*, p. 90), on March 9th, by O. O. Wrigley, Esq. (p. 121), and on April 13th, by S. Gratrix, Esq. (p. 152). Of late years it has been known almost exclusively under the latter name, and has been justly regarded as the premier form of this useful old species, the dorsal sepal being over three inches across in well-grown examples. The circumstances of its introduction do not appear to have been recorded, but it is said to have been cultivated at Harefield Hall since early in 1894. Presumably it came out of an importation of the so-called C. i. montanum.

It appears to be known under two other names, for at a meeting of the Manchester Orchid Society held on December 3rd, 1908, the Committee unanimously decided that C. i. Francis Wellesley and C. i. Baron Schröder were identical with C. i. Harefield Hall var., and must be exhibited as such at the Society's meetings (*O.R.*, xvii. p. 23). The former had been exhibited at a meeting of the R.H.S. on December 10th, 1907, when opinion is said to have been divided as to whether it was C. i. Harefield Hall var. or distinct (*Gard. Chron.*, 1907, ii. p. 419). It is, however, said to have come from a different importation. C. i. Baron Schröder can be traced back to 1898, for on November 10th it was exhibited by S. Gratrix, Esq., and received a First-class Certificate from the Manchester Orchid Society. Nothing is recorded as to its origin.

This beautiful variety has been much used for hybridising, and has yielded a number of very fine hybrids, but, singularly enough, when self-fertilised at Westonbirt, the seedlings are said to have reverted to quite ordinary forms (*O.R.*, xvi. p. 324). Our figure represents a plant in the collection of Lieut.-Col. Sir George L. Holford, Westonbirt (gr. Mr. H. G. Alexander), and is reproduced from an excellent photograph by Mr. E. T. Lamb, which is, necessarily, greatly reduced in size.

Messrs. Sander wrote us in 1900 (*O.R.*, viii., p. 15): "C. insigne seems to be distributed over a very wide area. We get it from Assam and Burma, and from many stations in the former province, especially the Khasia Hills. . . . There is always great difficulty in getting to know the exact locality of the different plants. Our collectors, of course, employ native labour, and many of these natives go a long distance for plants. . . . We hope that further importations will throw more light on the question."

THE AMATEUR'S ORCHID HOUSE.

By ALWYN HARRISON.

ABOUT ten years ago I commenced growing Orchids, and formed the nucleus of my collection with two Cypripediums, barbatum and insigne. Not having a proper house, they were placed in one devoted chiefly to Carnations and Roses, and I can well remember my delight on seeing the first flower-bud appear on the insigne. In a short time, my initial success resulted in my purchasing Orchids of all description, and as warm and cool house species were both selected, it was only natural that many soon developed into unhealthy plants. This varied collection caused the Roses and Carnations to assume a sickly appearance in a short time, and it was then decided to partition off a portion of the house by a glass division and door, and to keep this exclusively for the culture of Orchids. From this point commences my real success with these plants. By this time I had acquired some knowledge of Orchids, and determined to keep my house for intermediate species and hybrids. I therefore disposed of the warmer kinds, and confined myself to Cattleyas, Lælias and their hybrids, the cooler Dendrobiums, Oncidiums, Cypripediums, and a few Odontoglossums. I will now give details of the arrangement of the house, and cultural notes on the various genera I am now growing, hoping that these notes may induce other amateurs to begin the cultivation of these most fascinating of all plants.

THE HOUSE AND ITS CONTENTS.

My house is 12ft. long by 9ft. wide, and is a three-quarter span roofed structure built against a wall facing south. There is only one staging, but this is covered with tiles, and it is found that these retain the moisture excellently, besides imparting a clean appearance to the house. Under the staging there is a layer of coke placed upon the natural earth, with a cemented path down the centre. The ventilation is on the old-fashioned system, with lights opening on a level with the staging, but the plants seem to thrive in spite of it.

Along the end, and from the wall, at a height of five feet from the ground, I have erected a shelf about nine inches wide, and also one lower at the side of the house below the eaves. On the wall I grow several Orchids, Epidendrum Parkinsonianum (the culture of which was given at page 371 of the December issue), Dendrobium nobile, Wardianum, crassinode, and their hybrid, melanophthalmum. These are fastened on wooden rafts with copper wire, with osmunda fibre and sphagnum moss used for compost, and are syringed daily except when at rest. The usual mode of watering Orchids so grown is by dipping them for a few minutes in a tepid rain-water tank, but this practice is not applicable to these plants, for they

have covered the mossy wall with a network of roots. The plants on the shelf below comprise Læliocattleyas and Brassavola crosses, all approaching flowering size, and which get little shade at any time. These I grow in osmunda fibre, with a handful of oak leaves added, and a little sphagnum moss on the surface of the compost. I find repotting every alternate year beneficial, as it keeps them always on the move, an important factor in the healthy growth of hybrids, which take little rest. During the growing season they receive abundance of water, and only in winter are they watered sparingly, on dull cold days. Hybrid Orchids will not stand drying off, as is practised with the species. If these Orchids have several bulbs of good size, and which are healthy, I cut through the rhizome, usually in March, leaving two bulbs to support the lead. In this way any that have dormant eyes start into growth, and in two seasons produce flowering-sized bulbs.

On wires stretched along the end of the house over the glass, I have many Orchids suspended. These comprise Dendrobium Wardianum and several varieties of nobile, Lælia anceps and Cattleya citrina. I must pause here to explain in detail the culture given to this latter species. This handsome Orchid has a reputation for deteriorating, but two plants have blossomed regularly for the last seven years, and the flowers have not become smaller each year, but even larger, especially last season. I grow them on teakwood on a kind of cushion of osmunda fibre, with a little sphagnum moss, fastening the plant in an inverted position on the wood. A teaspoonful of dry guano is added each year to the compost, when the plants become active after their period of rest, and this is renewed annually. This plant is kept well watered whilst growing, syringed over the foliage, and never shaded. I think a great mistake made in growing this Orchid is, that it is given too low a temperature. My plants get Intermediate house culture, and revel in it.

Below these, on the shelf, are more Læliocattleyas, all approaching flowering size, several hybrid Dendrobiums, and a few plants of Odontoglossum grande. With these latter I have had great success, and their culture I will now explain. They are grown in pots, in a mixture of oak leaves, polypodium fibre, and sphagnum moss, given abundance of water, and little shade throughout the summer, and early in September I give them weak doses of liquid cow manure twice a week. The flower spikes are much improved by this; as many as seven flowers have been carried on a spike, and invariably each lead produces two flower-scapes. Several years ago I experimented in feeding this Orchid, and those not fed, although grown side by side with those that were, produced ordinary spikes bearing three or four flowers; but those that were fed produced six to seven, and the size of the flowers was much enlarged. Since this marked improvement has been

observed, all the plants of O. grande are now fed. After flowering, they are placed at the coolest end of the ordinary greenhouse, and only given enough water to prevent undue shrivelling of the pseudobulbs, until a fresh start is again made. The culture of this handsome Orchid may be briefly summed up in three words:—(1) Feeding when in full growth; (2) plenty of heat and moisture while growing; (3) an absolute rest after flowering.

On the shelf below the eaves, are several Odontoglossum seedlings, which I find do better in a little more warmth than that given to the species, which latter I grow in the adjacent house. I also have here a few seedling Cypripediums, potted in loam and sphagnum moss, with a little polypodium fibre, which the seedlings appreciate when in a young state, but do not need when fully grown. This shelf is kept well shaded, the glass being painted in summer, besides a tiffany blind, which protects the plants from the rays of the sun. On the staging in front of the wall, all the Lælio-cattleyas of flowering size are grown, also some of the parent species. The pots of these are raised off the tiles by being stood on inverted pots and saucers, according to their respective heights.

At the warmest end of this house is a plant of Phaius Wallichii, which has not bloomed since it came into the collection five years ago. It has been tried in all positions, repotted, and in fact everything possible done to induce it to throw up a flower spike, but none has yet appeared. Every year it makes a large healthy bulb, but then ceases growing till a new bulb is made. A plant of Cymbidium Tracyanum is one of the most useful Orchids in the collection, its long flower spikes remaining six to eight weeks in full beauty. It can be allowed to carry its flower spikes until they fade if given a rich compost of loam, osmunda fibre, sphagnum moss, and a little dry manure. Throughout the growing season it is watered twice weekly with liquid cow manure, a similar treatment being accorded to a plant of Zygopetalum Mackayi. Epidendrum Boundii is another useful subject for conservatory decoration, and is easily propagated by cutting the stem in pieces, and potting these in moss and Osmunda fibre: but really all its nourishment is derived from the moisture of the atmosphere, and at the present time a plant fastened on a teak rod, with no soil whatever, is carrying a good head of flowers.

On the staging on the opposite side is the general collection of Cattleyas and Lælias. These I never allow to get very large, for small compact pieces in 32in. or 24in. pots are more floriferous, and have a neater appearance. On the hot water pipes at the end of the house, where there is no staging, a box has been made to fit over these, and this is filled with sphagnum moss. It forms an ideal propagator. When repotting any of the Cattleyas, three bulbs are left to support the leading growth, and any others of healthy appearance are inserted in this box, where a fair

percentage make a fresh start, and soon grow into useful plants. The back bulbs of Læliocattleyas, Odontoglossums, and Dendrobiums are also induced to start by the same method.

At the warmest end of the house, is another box-like frame, placed on the staging in an accessible position. In this the tiny seedlings, and pans containing Orchid seed, are kept. In winter, on cold nights, this box is covered with a pane of glass, which assists in maintaining an even temperature, which is of vital importance for the healthy development of the seedlings. This glass is propped open, either little or much, according to the weather and temperature of the house, and is removed entirely from May till September, as it is liable to cause the seedlings to damp. This I learnt by bitter experience, losing three promising seedlings of C. Dowiana aurea × citrina from this cause. I have repeated the cross several times, both ways, but have never even managed to get another seed pod.

The seed of Læliocattleyas and of Odontoglossums is sown on prepared beds, and placed in this box. Some sphagnum moss is rolled into a ball and wrapped in canvas, and this is placed in an Orchid pan. The seed is sown on this when ripe, and the moss is kept in an even state of moisture and the pan well shaded. Much trouble and time is naturally taken in raising Orchid seedlings, but anyone who has been successful never gives up this most fascinating branch of Orchidology. Water can only be given by means of a hand sprayer, and I am especially careful to use only pure rain water, poured through canvas before it is needed for the seedlings. At the opposite end of the house the Oncidiums are grown, but as their culture has already appeared in these pages (p. 359 of last issue), it need not be repeated here.

Over these and along the centre of the house wires have been stretched and a variety of Orchids hung from these. Vanda cœrulea is a great success, producing one and sometimes two flower spikes regularly each year from both plants. They are hung near the roof ventilator, and get abundance of pure, fresh air and light throughout the year. They are now grown in baskets, and do much better than when grown in pans down on the staging. A compost of polypodium and sphagnum moss is used for one, and osmunda and sphagnum for the other. Both plants are compact specimens, and have much improved since a teaspoonful of crushed nitrate of soda was added to their compost. I had formerly another plant, but it died whilst carrying a seed pod, being crossed with suavis.

Stanhopea Wardii, suspended at the warmest end of the house, flowers well, but its blossoms are so soon over. This is grown in a teak basket in osmunda fibre alone. A little liquid manure water given once a fortnight during the summer encourages a better display of flowers.

Several pans of seedling Dendrobiums of lost parentage, though two are

supposed to be Dalhousieanum × aureum, are grown in various composts for the sake of experiment. Those in Osmunda fibre and moss are the healthiest, and as the others increase in size they will be put into that compost. Neither polypodium fibre nor leaf soil seems to be lasting enough for these Orchids. Against the glass division is another shelf on a level with the others, and here I keep my choicest plants. Here are three seedlings of Odontoglossum Harryanum × Oncidium tigrinum, which should be quite interesting when they flower.

All my plants are sprayed overhead once a day in spring and autumn, and on bright days in winter, but as the house is small, and dries quickly, syringing is required three or four times daily in summer. The staging and path is damped morning and evening throughout the year. I am particularly careful to see that only pure rain water is used for direct application to the plants, but the floor and staging is damped with ordinary water. Lately I have been damping the path once a week with soot water, and as it has encouraged active rooting, from the Cattleyas and Lælias especially, I think it must do good.

Shading is done by means of a tiffany blind. This I lower on bright days from April to September, but only while the sun is shining on the house. It is only used in exceptionally sunny weather after September.

(To be continued.)

HYBRIDS AND THE USE OF THE ×.

OUR readers will not fail to notice the omission of the sign of hybridity, "×," from the names of hybrids in our present issue. The change has long been foreshadowed. Over four years ago we pointed out that hybrids had become so numerous that having to distinguish them individually led to great inconvenience and waste of space, and we then decided to omit the sign from the names of generic hybrids, on the ground that where all were hybrids it was unnecessary, though we did not then propose to go further (*O.R.*, xiv. p. 283). The system was adopted many years ago to distinguish hybrids from species, but in the case of Orchids it may be said to have broken down under its own weight. A glance at the genus Cattleya in the Index to our last volume—and it is not the worst genus—will show that the hybrids there dealt with are nearly three times as numerous as the species, confirming a remark formerly made that in some genera it would be less trouble to adopt some sign to distinguish the species. And the use of the sign gives little information now-a-days, when we have hybrids of almost every degree of complexity. Besides this there are plants which were originally described as species but afterwards were recognised as natural hybrids. Another confusing element is the fact that the sign "×" is used in a double sense. For example, in the phrase "Lælia cinnabarina

× L. purpurata = L. × Latona," the sign is used in both senses. But when both parents are themselves hybrids we get the following: "Lælia × Latona × Cattleya × Hardyana Læliocattleya × Jason," which requires at least a mental effort to understand. The remarkable increase in the number of hybrids renders some change absolutely necessary, and for the future we must be content to write "Lælia Latona × Cattleya Hardyana = Læliocattleya Jason." The alternative is unthinkable.

HYBRIDS RAISED AT KEW.

A CONSIDERABLE number of hybrids of various kinds have been raised at Kew, and on account of the general interest and importance of the question a list of them has been brought together, and appears in the last issue of the *Kew Bulletin* (pp. 321-328). It contains a few Orchids, which are here extracted:—

CYNORCHIS KEWENSIS (C. purpurascens × C. Lowiana). The seedlings raised from this cross, made in 1901, flowered in 1903. In habit they resemble C. Lowiana, the flowers being intermediate in size and dull purple-red in colour.

DISA KEWENSIS (D. grandiflora × D. tripetaloides). This hybrid was the result of a cross effected in 1891, and flowered in eighteen months from the sowing of the seed. The flowers are intermediate in colour, 1½ inches in diameter, with bright rose lateral sepals; the dorsal sepal is hooded, as in D. tripetaloides, light pink in colour, with a few light red spots. The labellum is concave, pink, shading off at the base to pale yellow, and spotted with light red. Figured in *Gartenflora*, 1903, t. 1510.

DISA PREMIER (D. tripetaloides × D. Veitchii). This plant resulted from a cross made in 1891. D. Veitchii, the male parent, is itself a hybrid between D. grandiflora and D. racemosa. The flowers are rich rosy-crimson, larger than those of D. racemosa. It was exhibited at the Royal Horticultural Society meeting on October 10th, 1893, and received a First-class Certificate.

EPIDENDRUM KEWENSE (E. xanthinum × evectum). The reverse cross was also made. The first seedling from this cross, made in 1899, flowered in twenty months from germination. These hybrids showed diverse shades of colouring, the bulk of them being dull red or buff, suffused with yellow. A few flowers were self-pollinated, and also crossed with both parents. For further information, see *Orchid Review*, 1907, pp. 58, 122.

SPATHOGLOTTIS KEWENSIS (S. plicata var. Micholitzii × S. Vieillardii). This hybrid, produced in 1900, flowered in 1903. The colour of the flowers mostly resembles that of the female, being bright reddish-purple, two inches in diameter, with the pale yellow markings on the lip and column which are characteristic of S. plicata var. Micholitzii.

CATTLEYA DOWIANA AUREA.

THE annexed figure represents the very beautiful Cattleya Dowiana aurea, and is reproduced from a photograph sent to us many years ago by the late firm of Messrs. Hugh Low & Co. It is reduced to about half natural size. The variety is a native of Colombia, and was discovered in 1868, near Frontino, in the State of Antioquia, by Gustav Wallis, when collecting plants for M. J. Linden, who distributed it under the name of C. aurea before its specific identity with the earlier C. Dowiana, Batem., was

Fig. 2. CATTLEYA DOWIANA AUREA.

recognised. Four years later it was also collected by Butler when collecting in the same region for Messrs. Backhouse of York. According to Roezl it is found near the River Cauca, at a considerable distance above its confluence with the Magdalena, a locality upwards of 600 miles distant from the habitat of the typical C. Dowiana in Costa Rica. The figure shows well the characteristic shape and markings of the flower, and we need only add that the sepals and petals are nankeen yellow in colour, and

the lip very rich purple-crimson with radiating golden lines. It is one of the handsomest and most popular Cattleyas known, its colours forming a very striking contrast. In some localities C. Dowiana aurea grows in company with C. Warscewiczii, with which it crosses, yielding the handsome natural hybrid C. Hardyana, which is not infrequently found in importations of the two species, and which has also been raised artificially on several occasions.

CALENDAR OF OPERATIONS FOR JANUARY.

BY J. T. BARKER, THE WEST HILL, HESSLE, E. YORKS.

As the days gradually lengthen, we can look for signs of renewed activity amongst our plants, but during the present month the winter treatment must be continued, as nothing is gained by pushing any plant at this time of year.

TEMPERATURES.—The following temperatures should be maintained as nearly as circumstances will permit :—

Cool house : day, 50° to 55°, with sun 60° ; night, 50°.

Intermediate house : day, 60° to 63°, with sun 66° ; night, 57° to 60°.

Cattleya and Mexican house : day, 60° to 65°, with sun 68° ; night, 58° to 60°.

East Indian house : day, 65° to 70°, with sun 75° ; night, 65°.

These temperatures should be maintained as nearly as possible, but the outside conditions should be duly taken into consideration, and should the weather be extremely cold, a drop of a degree, or even two, will do no harm : in fact it is better than attempting to reach the higher figures by excessive firing, which will do more harm than good. As the days lengthen, we may expect the cold to strengthen, and the heating of the several houses must have every attention. The fire heat may be economised by letting the blinds down at night, or by putting coverings on the glass of the different materials supplied for that purpose, but these should always be removed as soon as possible in the morning, as it is most essential that the plants should receive all the light possible at this dull season.

VENTILATION.—Ventilate as freely as possible during mild weather, chiefly by the means of the bottom ventilators, as a stagnant atmosphere is injurious to the plants. And, if possible, always keep some one or more of the ventilators open, if only say for an inch or so, as I am quite convinced that the majority of our plants receive too little air.

DAMPING.—The amount of moisture in the air must be regulated according to the amount of fire heat used, and other circumstances, and all the paths and walls must be damped once or twice a day, according to the outside conditions. On a damp, moist, mild day they will not require so much as on a clear, bright day.

WATERING must still be done with caution, and much the same as has been recommended in previous Calendars. Let no plant suffer from too little or too much water. It has been said that the whole secret of successful plant culture is knowing when to withhold and when to apply water, and as the conditions v y so much in the different houses in which we grow our plants, it is im sible for anyone to lay down a definite law as to when it should be applied, and I am afraid that all will have to learn this for themselves.

INSECTS.—Keep a sharp look out for all kinds of insect pests, for cleanliness is of the greatest importance. All arrears of winter cleaning should be brought to a conclusion as soon as possible; all paint and the glass inside and out should be thoroughly scrubbed and every plant properly cleaned, as a little extra attention in this direction at this time of year saves a great deal of labour hereafter, when other things are more pressing.

SLUGS AND COCKROACHES must be kept down at all costs, for it is useless to attempt to grow Orchids in a house infested with these pests, as they devour roots, flower spikes, and, in fact, almost everything.

COOL HOUSE.—In the Cool house many things are at rest, but others are on the move, and the principal work will be to give due attention to the watering, and keeping the atmosphere in a sweet and healthy condition. The plants, as they commence to grow, may be kept rather moister than before.

ODONTOGLOSSUMS.—Any Odontoglossums that were missed at the autumn potting may be potted towards the end of the month. The compost I use, and which I find quite satisfactory, is equal parts of peat (from which all the fine particles have been taken), polypodium fibre, osmunda fibre, and sphagnum moss, mixed all together, with a fair amount of drainage in the bottom of the pots. All newly-potted plants should be kept on the dry side until the roots can be seen to be pushing through the soil or compost. A few Odontoglossums are now in bloom, and with Masdevallia tovarensis, Schrœderiana, and a few others, make up a nice show to enliven the house at this time of year.

INTERMEDIATE HOUSE.—In the Intermediate house the Cypripediums will be making a brave show. All flower spikes should be neatly staked as soon as they are long enough. I am taking it for granted that the plants were thoroughly cleaned and overhauled before any commenced to show their spikes. The plants should be raised up to the glass, so that every plant receives the maximum amount of light possible. As the winter-flowering kinds pass out of bloom any that require repotting should have attention, using the following mixture: Two parts best fibrous peat, one part polypodium fibre, and one part fibrous loam, with a liberal mixture

of sphagnum moss. Keep those newly potted on the dry side; the others must have water in the usual way. Those that are throwing up their flower spikes should not be allowed to suffer for want of water, or malformed flowers will be the result.

MILTONIA VEXILLARIA and Bleuana will now be growing actively, and as the days get longer will take more water. Keep them nicely on the move, but on no account push them. Thrip must be watched for and kept down at all cost, or the flowers will be deficient in quantity and quality. M. Bleuana is best accommodated at the warmest end of the house and M. vexillaria at the coolest end. Other occupants of this house must be treated according to their condition.

CATTLEYA HOUSE.—In the Cattleya house the majority of the plants are at rest, and should be carefully watered. I do not believe in the drying process, which is practised by some growers of these plants, and I am fully convinced that a great many give their Cattleyas and Lælio-cattleyas too little water all the year round. Those that are growing, as C. Warneri, Lælia purpurata, and some of the hybrids, should be placed in the warmest and lightest position in the house, and should receive water whenever the moss growing on the top looks white or the plant appears to require it, and a similar remark applies to those that are maturing their spikes, as C. Percivaliana, Trianæ, and the numerous varieties of the latter.

LÆLIA ANCEPS is now in full bloom, and where these are grown in quantity, and well done, make a most interesting family. A house of it in full flower, with its allies, L. Gouldiana, L. autumnalis, and the variety alba, is not easily forgotten, and the flowers come at a most acceptable season. The plants should be kept moderately dry, but in no case should they be allowed to suffer. How often do we see this class of plant in the condition they ought to be, with leaves like leather, and as green as grass?

CŒLOGYNE CRISTATA and its varieties thrive at the cool end of the Intermediate house, and are now pushing up flower spikes, and must not be allowed to suffer for want of water.

EAST INDIAN HOUSE.—In the East Indian house things will soon be showing renewed activity, and must have attention. Dendrobiums may be brought from their resting quarters in batches, as they are required, and placed in this house to produce their flowers. D. nobile and Wardianum and their hybrids are the best adapted for this treatment, but to my mind should not be so treated unless it is absolutely necessary to have their flowers at an early season, for they come much better and finer if allowed to develop more slowly and naturally. D. Phalænopsis and its allies should receive a good rest without being removed from the house before growth recommences. Towards the end of the month many species of Aërides and

allied genera may be repotted (I am no advocate of top dressing) should they show signs of renewed activity.

Efforts should be made to keep the atmosphere of the different houses in a sweet and healthy condition. Avoid fluctuation in temperatures as much as possible, remembering that if the houses feel uncomfortable to ourselves, they must be so to the plants which occupy them. In general the winter treatment laid down in the previous Calendars should continue to be given as any attempt to hurry things on will only result in weakly growths and disaster.

The busy season will soon be upon us, and all potting requisites and other materials should have attention, so that when it arrives there is no delay, and our best energies may be directed to giving each plant its special requirements. A little forethought at this season may prevent many vexatious delays at a later period, and save much valuable time.

The general details to be followed during the month are: admit all the light possible; air and moisture in accordance with the amount of fire-heat necessary to maintain the various temperatures; and wage continual warfare with all insect pests. Cleanliness is one of the most important aids to successful culture.

SOCIETIES.

ROYAL HORTICULTURAL.

THE last Show of the year was held on December 8th, and brought together a very fine display of Orchids from no fewer than thirty exhibitors, over half of whom were amateurs. The awards consisted of four Cultural Commendations, four Awards of Merit, three Botanical Certificates, and eight medals. An account of the certificated plants is given at the end of our report.

Orchid Committee present: J. Gurney Fowler, Esq., in the Chair, and Messrs. J. O'Brien (hon. sec.), H. Little, W. Thompson, F. J. Hanbury, A. A. McBean, C. H. Curtis, W. Cobb, J. Charlesworth, J. Cypher, W. H. Hatcher, W. P. Bound, H. G. Alexander, A. Dye, W. H. White, Gurney Wilson, J. Wilson Potter, W. Bolton, C. Cookson, C. J. Lucas, H. Ballantine, Harry J. Veitch, and Sir Jeremiah Colman, Bart.

Sir Jeremiah Colman, Bart., Gatton Park (gr. Mr. Collier), sent a small group o interesting things, including the beautiful Cœlogyne Mooreana, Dendrobium triflorum, Masdevallia Courtauldiana, M. Mooreana, Zygopetalum rostratum, Calanthe Alpha, Cirrhopetalum picturatum, Seraphyta multiflora, and two other interesting things which are mentioned under Awards.

Lt.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent finely grown examples of Læliocattleya Arethusa and Elva, Cymbidium Pluto (Mastersii × Tracyanum), having light yellow

sepals and petals lined with red dots, and the lip white blotched, with purple, Cypripedium Draco (Sallieri × Euryades), C. nitens-Leeanum var. aureum, and a handsome Vanda mentioned under Awards.

The Right Hon. Lord Hillingdon, Hillingham Court, Uxbridge (gr. Mr. A. R. Allan), staged a beautiful group of well-grown plants of Zygopetalum Mackayi, bearing an aggregate of seventy flower-spikes (Silver Banksian Medal).

Sir Trevor Lawrence, Bart., W. R. Lee, Esq., J. S. Bergheim, Esq., F. M. Ogilvie, Esq., and Mrs. Temple, also sent some interesting plants, which are mentioned under Awards at the end of our report.

Samuel Larkin, Esq., The Ridgeways, Haslemere (gr. Mr. Hale), received a Silver Banksian Medal for a pretty little group of Odontoglossums, Phalænopsis Schilleriana, P. Aphrodite Kinlesideana, with some rosy markings on the lip, Cymbidium giganteum and Wiganianum, and some good Cattleyas and Læliocattleyas.

Richard le Doux, Esq., Marlfield, West Derby, Liverpool (gr. Mr. Fletcher), sent Cypripedium Richard le Doux (Leeanum giganteum × Prospero majus).

H. Little, Esq., Baronshalt, Twickenham (gr. Mr. Howard), sent Cypripedium insigne Little's var., having a handsomely blotched dorsal sepal with broad white margin.

His Grace the Duke of Marlborough, Blenheim Palace, Woodstock (gr. Mr. Hunter), sent Cypripedium Lord Ivor (insigne Harefield Hall var. × Hera), and C. Troilus var. Lord Nelson.

Lady Audley Neeld, Grittleton, Chippenham (gr. Mr. Pitt), sent Cypripedium Draco splendens.

W. H. St. Quintin, Esq., Scampston Hall, Rillington, Yorks (gr. Mr. F. C. Puddle), sent a number of interesting Læliocattleyas raised in the collection.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black), sent a pretty group of hybrids, including Sophrocattleya Wellesleyæ perfecta, with rosy red flowers, two good S.-c. Saxa, and three pretty Cattleya Mary de Wavrin, having white sepals and petals, and a rose-purple lip veined with golden yellow.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Læliocattleya Gwenda, a pretty hybrid, having primrose-yellow sepals and petals, and a reddish lip veined with golden yellow.

R. Brooman White, Esq., Arddarroch, Garelochhead, sent several cut spikes of Odontoglossums, and a good example of Oncidium sarcodes.

Messrs. Charlesworth & Co., Haywards Heath, staged a superb group, to which a Silver-gilt Flora Medal was awarded. It contained the beautiful Læliocattleya Myrrha (L.-c. Gottoiana × C. Dowiana Rosita), having

yellow sepals and petals flushed with rose, and a crimson lip with some yellow veining, L.-c. Bola (L.-c. callistoglossa × C. labiata), a richly-coloured flower most like the latter parent, a fine yellow L.-c. Golden Oriole, and other good Læliocattleyas, some well-flowered examples of Vanda cœrulea, Odontioda Diana (C. Nœtzliana × O. amabile), Odontoglossum armainvillierense xanthotes, and numerous other good Odontoglossums, some well-flowered plants of Oncidium prætextum, Cypripedium Gaston Bultel, and many other fine things.

Messrs. Sander & Sons, St. Albans, received a Silver Flora Medal for a fine group, including some good varieties of Lælia anceps, Læliocattleya Haroldiana, Statteriana, and others, numerous forms of Cypripedium insigne and Leeanum, C. Merlin var. Atlas, a well-shaped flower, some good Odontoglossums, Houlletia Sanderi, a striking Catasetum from Peru, with greenish yellow sepals and petals barred with brown, and a much-fringed lip, and other interesting things; also a Brassia, for which see Awards.

Messrs. Armstrong & Brown, Tunbridge Wells, received a Silver Banksian Medal for a good group, including the beautiful C. Thalia var. Mrs. Francis Wellesley, C. T. giganteum, C. Captain Spender Clay (villosum auriferum × Fairrieanum), C. Mrs. Spender Clay (Actæus, Drewett's var. × Fairrieanum), C. Niobe, Westonbirt var., C. vexillarium superbum, a fine C. Germaine Opoix, Westfield var., and C. Euryades splendens.

Messrs. James Cypher & Sons, Cheltenham, received a Silver Banksian Medal for a good group of Cypripediums, including the fine C. Charlesianum, Cypher's var., many good C. Leeanum, C. Actæus var. Miss Carr, C. A. virginale, C. Thalia giganteum, C. Minos Veitchii, C. triumphans, C. Vandyke, C. Madame Jules Hye, and other good things.

Messrs. Stuart Low & Co., Enfield, received a Silver Banksian Medal for a bright group, including some good Oncidium varicosum, O. cheirophorum, O. ornithorrhynchum album, Dendrobium Phalænopsis, Cattleya Dusseldorfii Undine, a good white C. labiata, Bulbophyllum hirtum, a fine specimen of Cirrhopetalum Medusæ, Houlletia Sanderi, Gongora galeata, Masdevallia tovarensis, M. Laucheana, and a number of good Cypripediums.

Messrs. Mansell & Hatcher, Rawdon, Yorks, received a Silver Banksian Medal for a good group, including Spathoglottis plicata alba, Cypripedium insigne Sanderæ, C. i. Harefield Hall var., C. i. Bohnhofianum, the fine C. Hoyleanum, C. F. L. Ames, C. Leeanum Corona, and other good things.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent the handsome Sophrocattleya Doris, Cypripedium Earl of Tankerville, and a few good seedlings, with C. Waterloo (see Awards).

Messrs. H. B. Hartland & Sons, Ardcairn, Ballintemple, Co. Cork,

showed Cypripedium Thalia, Mrs. Francis Wellesley, a fine C. Minos Youngii, C. Euryades splendens, and C. insigne giganteum.

Messrs. Jones Howes & Co., Elmdon Nurseries, Kenilworth, sent a form of Vanda cœrulea having white sepals and petals and a violet-coloured lip.

Messrs. J. & A. A. McBean, Cooksbridge, staged a group of finely-grown Lælia anceps varieties, and some good Cypripediums.

M. Maurice Mertens, Mont.-St.-Amand, Ghent, sent a number of hand-some hybrid Odontoglossums.

Messrs. Stanley & Co., Southgate, sent a good white form of Cattleya labiata, Cœlogyne fuscescens, Cypripedium insigne Harefield Hall var., C. i. Brilliant, with well-blotched dorsal sepal, C. Minos Youngii, and C. Madame Jules Hye.

Messrs. James Veitch & Sons, Chelsea, showed a hybrid Cypripedium from C. Actæus × insigne Harefield Hall var., a finely-shaped flower, having the upper half of the dorsal sepal white, and the base well blotched.

AWARDS OF MERIT.

CYPRIPEDIUM WATERLOO (Mrs. Wm. Mostyn × Ranjitsinhji). A handsome flower, with large, white dorsal sepal, clear purple at the base; petals and lip yellowish tinged with light purple-brown. Exhibited by Mr. E. V. Low.

ODONTOGLOSSUM CERES, PLUMPTON HALL VAR. (Rossii × Rolfeæ). A large and handsome variety, having the basal half of the sepals barred with red-brown, and the broadly ovate lip tinged with rose. Exhibited by W. R. Lee, Esq.

ODONTOGLOSSUM ROUGE DRAGON (Phœbe × armainvillierense). A handsome hybrid, having broad, shortly acuminate, white sepals and petals, heavily blotched with deep reddish crimson, and a large blotch in front of the lip's crest. Shown by W. R. Lee, Esq.

VANDA CŒRULEA BLUEBEARD. A handsome nearly circular flower, with indigo blue sepals and petals, mottled with white between the veins, and the lip dark violet. Shown by Lt.-Col. Sir George Holford.

BOTANICAL CERTIFICATES.

ANGRÆCUM PELLUCIDUM. A West African species, having drooping Phalænopsis-like leaves, and pendulous racemes of semitransparent whitish flowers, tinged with buff on the sepals and the fringed lip. Shown by J. S. Bergheim, Esq., Belsize Court, Hampstead.

BRASSIA FORGETIANA. A Peruvian species, somewhat resembling B. Lanceana, having greenish white flowers, barred with brown at the base, and the crest of the lip orange. Shown by Messrs. Sander & Sons.

DENDROBIUM SPECIOSUM NITIDUM. Plant rather taller and more slender in habit than var. Hillii, and bearing long spikes of cream white flowers. Shown by Sir Jeremiah Colman, Bart.

CULTURAL COMMENDATIONS.

DENDROBIUM SPECIOSUM NITIDUM. A noble specimen bearing 45 spikes, grown by Mr. Collier, gr. to Sir Jeremiah Colman, Bart.

LÆLIA ANCEPS AMESIANA, TEMPLE'S VAR. A well-bloomed specimen, grown by Mr. Bristow, gr. to Mrs. Temple, Groomsbridge.

LYCASTE COSTATA. A fine plant, bearing 21 flowers, grown by Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart.

ODONTIODA CHARLESWORTHII. A fine deep-red variety, bearing a spike of 17 flowers, grown by Mr. W. Balmforth, gr. to F. M. Ogilvie, Esq., Oxford.

There was no Show on December 20th, but the Committees met to adjudicate upon any special subject submitted, and the Orchid Committee had twenty-four plants before them, and granted one First-class Certificate, four Awards of Merit, and one Cultural Commendation. The Members were present as follows:—J. Gurney Fowler, Esq., in the Chair, and Messrs. J. O'Brien (hon. sec.), A. Dye, H. Little, J. Charlesworth, C. H. Curtis, F. J. Hanbury, A. A. McBean, W. Cobb, W. H. Hatcher, H. G. Alexander, W. H. White, Gurney Wilson, de Barri Crawshay, and Harry J. Veitch.

Lt.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent Cypripedium Rossetti magnificum, a remarkably fine form, C. Actæus var. Undine (insigne Sanderæ × Leeanum Prospero), bearing nine flowers, three-fourths of the basal sepal being white, and two others (see Awards).

Sir Jeremiah Colman, Bart., sent a fine Odontioda (see Awards).

F. J. Hanbury, Esq., Brookhurst, East Grinstead, showed a flower of a hybrid between Lælia autumnalis and Cattleya labiata.

A. Harrison, Esq., Lyndhurst, Watford, sent Læliocattleya Ethelreda Harrison (C. Loddigesii × L. xanthina).

S. Larkin, Esq., The Ridgeways, Haslemere (gr. Mr. Hale), sent a fine plant of Odontoglossum crispo-Harryanum, a white form of Miltonia Bleuana, and Læliocattleya bella.

Pantia Ralli, Esq., Ashstead Park, Epsom (gr. Mr. Hunt), sent a good form of the pure white Cattleya Dusseldorfii Undine.

R. G. Thwaites, Esq., Streatham (gr. Mr. J. M. Black), sent Sophro-cattleya Saxa, and a fine Cattleya Maggie Raphael with white sepals and petals.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Læliocattleya Ophir, Westfield var., Cypripedium Waterloo, and C. etoniense.

Messrs. Charlesworth & Co. Haywards Heath, sent a fine plant of Læliocattleya Sunray (L. cinnabarina × C. superba), Cypripedium Victor

Hugo (variabile × Lathamianum), a fine hybrid with a purplish band on the white dorsal sepal, and two others (see Awards).

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent a fine Cypripedium (see Awards).

Messrs. Armstrong & Brown, Tunbridge Wells, sent four interesting Cypripedium Fairrieanum crosses, C. Dauphine (Cassandra × F.), a well-shaped flower with drooping petals, C. Amboyna (Goultenianum × F.), like an improved C. vexillarium, C. Corunna (Leeanum × F.), a pretty green and white flower, with very undulate petals, and C. Bayonne (Prewettii × F.), showing an approach to C. Harrisianum in colour.

Messrs. J. & A. A. McBean, Cooksbridge, showed a fine Sophrocattleya Doris, bearing rich scarlet flowers 4½ inches across.

Messrs. James Veitch & Sons, Chelsea, sent Cypripedium Gertrude (glaucophyllum × Euryades), a very promising hybrid, C. insigne Crusader (i. Sanderæ × Harefield Hall var.), a fine flower regularly spotted with purple on the dorsal sepal, and C. Clionia (Actæus × insigne Harefield Hall var.), a very large and finely-blotched flower.

FIRST-CLASS CERTIFICATE.

ODONTOGLOSSUM CERES MAGNIFICUM (Rossii rubescens × Rolfeæ).—A remarkably fine form, in which the sepals are heavily barred with claret-red, as in the seed parent, and the petals similarly marked at the base and flushed with rose at the apex. Shown by Messrs. Charlesworth & Co.

AWARDS OF MERIT.

CYPRIPEDIUM DANTE ROTUNDIFLORUM (Euryades × Charlesworthii).—A flower of excellent shape and substance, having a white dorsal sepal, lined with purple, and the petals and lip yellow, tinged with brown. Shown by Lieut.-Col. Sir George Holford.

CYPRIPEDIUM GASTON BULTEL.—A handsome hybrid, having a rose-coloured dorsal sepal, lined with purple and margined with white, and dark brown petals and lip. Shown by Mr. E. V. Low.

LÆLIOCATTLEYA PAULINE (L.-c. Ophir × C. labiata alba). A very pretty hybrid, having light yellow sepals and petals, and a white undulate lip, with radiating rose-purple lines on the front lobe, and some yellow in the throat. Shown by Lieut.-Col. Sir George L. Holford.

MILTONIA WARSCEWICZII LEUCOCHILA.—A beautiful variety, having light purple sepals and petals, margined with white, and the lip white, with some rose-purple at the base. Shown by Messrs. Charlesworth & Co.

CULTURAL COMMENDATION.

ODONTIODA BRADSHAWLE.—A very fine plant, raised at Gatton Park, and bearing a panicle with four branches and an aggregate of thirty-six flowers and buds. To Mr. J. Collier, gr. to Sir Jeremiah Colman, Bart., Gatton Park, Reigate.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on December 1st last, when there was a good display of plants, and the Committee was present as follows:—Messrs. E. Ashworth (Chairman), R. Ashworth, Thorp, Ward, Cowan, Keeling, Ashton, Holmes, Cypher, Sander, and Weathers (Hon. Sec.).

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), staged a very fine group of Cypripediums, occupying about 100 square feet. The range of variety was large, many of the best known hybrids and choicer varieties being represented, and in excellent condition.

A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish), exhibited a collection of Odontoglossums, some fine forms of O. crispum being prominent. The most notable specimen was a plant of O. c. var. quotiens (Silver-gilt Medal points in the "Robson" Cup were awarded).

Z. A. Ward, Esq., Northenden (gr. Mr Weatherby), staged a group of plants, principally Odontoglossums and Cypripediums (Silver Medal).

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), exhibited an interesting collection of Orchids, consisting mainly of Odontoglossums. Awards of Merit were given to the following: "O. Lambeauianum var. Triton, O. L. var. Mars, O. Bacchus, Calanthe George, and Cypripedium Victoria. A Cultural Certificate was awarded for the quality of the Odontoglossums.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), staged a superb group of plants. Odontoglossum Rouge Dragon (Phœbe × ardentissimum), and Cypripedium Sunrise received Awards of Merit.

R. le Doux, Esq., West Derby (gr. Mr. Fletcher), received Awards of Merit for Cypripedium R. le Doux and Odontoglossum eximium var. Mme. Augusta d'Abren.

S. Gratrix, Esq., Whalley Range (gr. Mr. Brown), received an Award of Merit for Cypripedium Beacon magnificum, the parentage of which was not recorded.

Messrs. James Cypher & Sons, Cheltenham, staged a fine group of Cypripediums, for which they were awarded a Silver Medal.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), exhibited a distinct form of Cypripedium Lord Ossulston.

F. A. Hindley, Esq., Gt. Horton, Bradford, was awarded a Bronze Medal for a small group of miscellaneous plants.

Other exhibitors were J. H. Craven, Esq., Keighley; Mr. J. Birchenall, Alderley Edge; Messrs. Charlesworth & Co., Haywards Heath; Mr. E. V. Low, Vale Bridge; Mr. J. Robson, Altrincham; Mr. W. Shackleton, Bradford; and Messrs. Stanley & Co., Southgate. P. W.

A second meeting was held on December 15th, but the report must be held over until our next issue.

ORCHIDS IN SEASON.

A FLOWER of a pretty hybrid from Brassavola Digbyana × Lælia anceps is sent from the collection of Sir John Edwards-Moss, Bart., Roby Hall, Torquay. The flower is about intermediate in shape, and has an expanse of over 6½ inches, the colour being lilac-purple, with a yellow throat to the lip, and some radiating brown lines at the base, recalling those of the Lælia parent. The petals are twice as broad as the sepals, and the lip distinctly fringed. Sir John remarks that the plant is not at all strong, and is now flowering for the first time. It is a form of Brassolælia Lellieuxii (*Orchid Stud-book*, p. 259). It would be interesting to see the cross repeated with a good white anceps, for a white flower might result from such a cross, with more substance to the sepals and petals.

A flower of Paphiopedilum aureum var. Œdippe with free lateral sepals is sent from the collection of G. Hamilton-Smith, Esq., of Finchley, by Mr. Coningsby, who remarks that the flowers have been normal on previous occasions. It is probably an accidental occurrence. There are two small buds on the plant, and it will be interesting to see how these behave. A flower of Cymbidium Wiganianum (eburneum × Tracyanum) is also sent, in which the characters of the latter are the most pronounced.

Two interesting secondary hybrids are sent from the collection of W. R. St. Quintin, Esq., Scampston Hall, Rillington, Yorks., by Mr. Puddle, who remarks that they were raised in the collection. Læliocattleya Florentia (L.-c. La France × C. labiata) has lilac-coloured sepals and petals, the latter being rather broad, and having a darker band down the centre, and the lip entire, and very rich crimson-purple except at the extreme base. L.-c. Lavinia (L.-c. epicasta × C. Bowringiana) has a bright purple flower much resembling C. Bowringiana in size, shape, and colour. It is also said to resemble this parent in habit and in having a number of flowers on the spike.

Several interesting Odontoglossums are sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens. There are two distinct forms of O. Thompsonianum, which are from small plants flowering on the second bulb, and one having the sepals much more acuminate than the other, and with some lilac marbling at the base of the petals. Three seedlings, called O. Wilsoni, derived from O. crispo-Harryanum × Vuylstekei, are very diverse in character, one having heavy, deeply-coloured blotches, recalling the second parent, while the others are yellow with brown markings, and one of which shows very little of the characteristic Harryanum markings, at the base of the lip. A third is a form of O. armainvillierense with clear white ground and a zone of purple blotches on the lower half of the segments. The last is from O.

Elaine, but the second parent is not known. It has narrow very acuminate segments, with pale yellow ground colour and very numerous brown dots, and showing much reversion to O. cirrhosum.

A beautiful form of Brassocattleya Pocahontas, called White Lady, has been sent from the collection of J. J. Holden, Esq., Southport, by Mr. R. Johnson, who remarks that it was derived from C. Eldorado alba × B. Digbyana. The flower is white, with a light green disc to the well-fringed lip. There is also a very fine richly-coloured Odontoglossum, which we take to be a form of O. Vuylstekeæ, and one called O. Major White (crispum × Lambeauianum), a very large white flower copiously blotched with purple, having petals 1½ inches broad and 3¾ inches from tip to tip.

A flower of Lælia chamonicensis is sent from the collection of E. F. Clark, Esq., Chamonix, Teignmouth. It was raised from seed obtained from Messrs. Keeling and Sons, in 1902, as Lælia purpurata × L. Jongheana. The influence of the latter is apparent in the shape of the flowers, and in the yellow disc of the lip with slightly raised keels, but there is very little trace of the characteristic veining of L. purpurata. The sepals and petals are lilac-purple, and the front of the lip rather darker, with a whitish area in front of the yellow throat. Mr. Clark observes that the habit is most like L. Jongheana with rather stout bulbs. Two other flowers are sent, one a light-coloured form of Læliocattleya Cornelia (L. pumila × C. labiata), and the other supposed to be from C. Gaskelliana × L. Iona, having lilac-coloured sepals and petals, and the front lobe of the lip rich purple, with a yellow throat.

A flower of a handsome dark form of Cymbidium Tracyanum is sent from the collection of D. L. Thorpe, Esq., Loshville, Etterby Scaur, Carlisle. Mr. Thorpe remarks that it is in a 12-inch pot, and bears two spikes of about twelve blooms each.

HYBRIDIST.

LÆLIA × CHATINI.—This is a very handsome deep buff yellow hybrid, raised in the collection of M. J. Ginot, St. Etienne, France, it is said from Lælia Jongheana ♀ × L. harpophylla ♂, though the segments are surprisingly broad for such a cross. The flower has an expanse of over 5½ inches, and the petals are about 1¾ inches broad, and approach those of some Cattleyas of the labiata group in shape. The lip is entire, and, when expanded, nearly orbicular in outline, and about 2¼ inches long. The colour may be described as rich buff yellow throughout. Some time ago it was remarked that good yellow Cattleyas were a desideratum, and this is a step in the right direction, though we cannot help wondering whether it is not the result of some other cross. We have not seen the plant, and the pollinia have been removed from the flower sent.

LÆLIOCATTLEYA PAULINE.—A handsome hybrid raised in the collection of Lieut.-Col. Sir George L. Holford, K.C.V.O., Westonbirt, by Mr. H. G. Alexander, from L.-c. Ophir × C. labiata alba, which received an Award of Merit from the R.H.S. on December 20th last. A flower has been kindly sent, whose characters are given at page 26.

OBITUARY.

FREDERICK ADOLPHUS PHILBRICK.—We regret to hear of the death, at the age of 74, of His Honour Judge F. A. Philbrick, Bodorgan House, Bournemouth, an old cultivator of Orchids. He was the son of a former Town Clerk of Colchester, and was educated at London University, and called to the Bar in 1860. He became Recorder of Colchester in 1874, and Judge of the Dorset County Court in 1895. When resident at Oldfield, Bickley, Kent, his collection was well known, and of late years he formed another collection at Bournemouth, and has sent us a number of very interesting flowers, some of which have been noted in our pages. His name is commemorated in Læliocattleya Philbrickiana, a hybrid raised by Messrs. James Veitch and Sons from Cattleya Aclandiæ and Læliocattleya elegans. It was described by Reichenbach in 1879 as Lælia Philbrickiana, and a figure is preserved in *Day Orchid Drawings*, XXX. t. 41.

PLEIONES.

AT this season most of the Pleiones will have completed their pseudo-bulbs, and as the period of rest is only of short duration, new growth will soon commence, from the centre of which is produced the brightly-coloured flowers on rather short stems. This by no means detracts from their beauty or decorative value, but to keep the blooms in perfection for any length of time it will be necessary to place the plants where the atmosphere is fairly dry. For buttonholes each flower readily comes away with a longer stalk if gently pulled with the thumb and finger. After flowering, the repotting should be done, arranging them about 2in. apart in well-drained pans 6in. or 8in. in diameter. A suitable compost consists of the best fibrous loam, peat, or osmunda fibre, and chopped sphagnum moss in equal parts, with sufficient crushed crocks or silver sand to render the whole porous. Water will only be needed in small quantities during the winter months, but as growth advances with the lengthening days, so must the supply be increased, and more air admitted, particularly from the top ventilators, whenever the weather is favourable. The Intermediate house is best adapted for Pleiones, such as a shelf, or a light position near the glass. All the species mentioned are natives of northern India, and embrace P. Hookeriana, præcox, with its variety birmanica, humilis, maculata, and lagenaria.—T. ANSTISS, in *Journal of Horticulture*.

ORCHID NOTES AND NEWS.

THREE meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during January, on the 3rd, 17th, and 31st, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on January 5th and 19th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 4 p.m. The following meeting is fixed for February 2nd.

Mr. John James Cypher, the well-known Orchidist, has been elected by the President and Council of the Royal Horticultural Society a Victoria Medallist of Horticulture, to fill one of the five vacancies caused by death during 1910. Mr. Cypher, who is 56 years of age, is the head of the well-known firm of Messrs. James Cypher and Sons, of the Cheltenham Nurseries, which has long held a prominent position as Orchid growers and exhibitors. His skill as a cultivator of Orchids, as well as in their artistic arrangement, is well known, and he has also done good work as a hybridist. Mr. Cypher is a member of the Orchid Committee of the Royal Horticultural Society, and of the Committee of the Manchester and North of England Orchid Society.

Mr. H. Stanley, 15, Palmerston Crescent, Palmers Green, W., writes: "On and after December 20th, 1910, I ceased to have any interest in the firm of Messrs. Stanley and Co., of Southgate, my connection having ceased from that date. I may add that I shall continue to devote myself to Orchids, as heretofore."

ORCHID PORTRAITS.

ANGRÆCUM SANDERIANUM.—*Orchis*, iv. p. 120, fig. 24.

ANGULOA CLIFTONI.—*Orchis*, iv. p. 119, t. 3.

BRASSIA FORGETIANA.—*Gard. Chron.*, 1910, ii. p. 463, fig. 209.

BRASSOCATTLEYA THORNTONI.—*Journ. Hort.*, 1910, ii. p. 601, with fig.

CATTLEYA TRIANÆ.—*Journ. Hort.*, 1910, ii. p. 553, with fig.

CATTLEYA WARSCEWICZII.—*Journ. Hort.*, 1910, ii. p. 529, with fig.

CEPHALANTHERA ENSIFOLIA.—*Gard. Chron.*, 1910, ii. p. 482, fig. 214.

CYMBIDIUM STEPPEANUM.—*Rev. Hort. Belge*, 1910, p. 397, with col. fig.

CYPRIPEDIUM BARON SCHRÖDER.—*Journ. Hort.*, 1910, ii. p. 505, with fig.

CYPRIPEDIUM BRITANNIA.—*Rev. Hort. Belge*, 1910, p. 401, with fig.

CYPRIPEDIUM CHARLESWORTHII TEMERAIRE.—*Gard. Chron.*, 1910, ii. p. 424, fig. 177.

CYPRIPEDIUM GASTON BULTEL.—*Gard. Chron.*, 1910, ii. p. 475, fig. 218.

CYPRIPEDIUM KING GEORGE V.—*Gard. Chron.*, 1910, ii. p. 442. fig. 185.

CYPRIPEDIUM MINOTAUR.—*Gard. Chron.*, 1910, ii. p. 425, fig. 178.

CYPRIPEDIUM PRINCESS MARY.—*Rev. Hort. Belge*, 1910, p. 401, with fig.

CYPRIPEDIUM REGINALD YOUNG.—*Gard. Chron.*, 1910, ii. p. 406, fig. 166.

DENDROBIUM CŒLOGYNE.—*Orchis*, iv. p. 121, fig. 25.

DENDROBIUM SANDERÆ, Rolfe.—*Bot. Mag.*, t. 8351.

LÆLIOCATTLEYA OLIVIA.—*Gard. Chron.*, 1910, ii. pp. 425, 431, fig. 181.

MASDEVALLIA ARMINII.—*Journ. Hort.*, 1910, ii. p. 577, with fig.

ODONTOGLOSSUM CERES, PLUMPTON HALL VAR.—*Gard. Mag.*, 1910, p. 997, with fig.

ODONTOGLOSSUM ROUGE DRAGON.—*Gard. Chron.*, 1910, ii. p. 463, fig. 203.

OPHRYS ARACHNITES.—*Gard. Chron.*, 1910, ii. p. 482, fig. 216.

ORCHIS PURPUREA.—*Gard. Chron.*, 1910, ii. p. 481, fig. 213.

POLYSTACHYA PANICULATA, Rolfe.—*Gard. Chron.*, 1910, ii. p. 462, fig. 202.

SERAPIAS LINGUA.—*Gard. Chron.*, 1910, ii. p. 482, fig. 215.

VANDA CŒRULEA SANDERÆ.—*Gard. Chron.*, 1910, ii. p. 415, fig. 172.

ZYGOPETALUM MACKAYI.—*Gard. Mag.*, 1910, p. 1037, with fig.

ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work*].

A photograph of a well-marked form of Odontoglossum eximium (armainvillierense × crispum Britannia) is sent by S. Riley, Esq., Walsall. Mr. Riley alludes to a form of O. Thompsonianum that he saw at Walton Grange the other day, and remarks that further crossing with O. crispum should produce the nearest approach to the much looked-for blue crispum.

A photograph of a fine form of Cattleya Mendelii is sent by Mr. Willard A. Hogan, East Orange, New Jersey. The shape is excellent, and Mr. Hogan remarks that the flower is much larger than usual, very rosy, and the lip suffused with dark magenta, forming a decided contrast with the ordinary white forms.

Photographs of Calanthe Volkensii are sent by Dr. Hans Goldschmidt, Essen-Ruhr, Germany. It is a native of Usambara, German East Africa, and Dr. Goldschmidt remarks that he received a few plants a year ago from a nephew residing there, and they are now flowering.

W.C.S.—Odontoglossum Rolfeæ with rather dark sepals and petals. O. Pescatorei is the second parent.

Photographs received, with thanks.—S.R., T.L., F.I., H.G., W.A.H.

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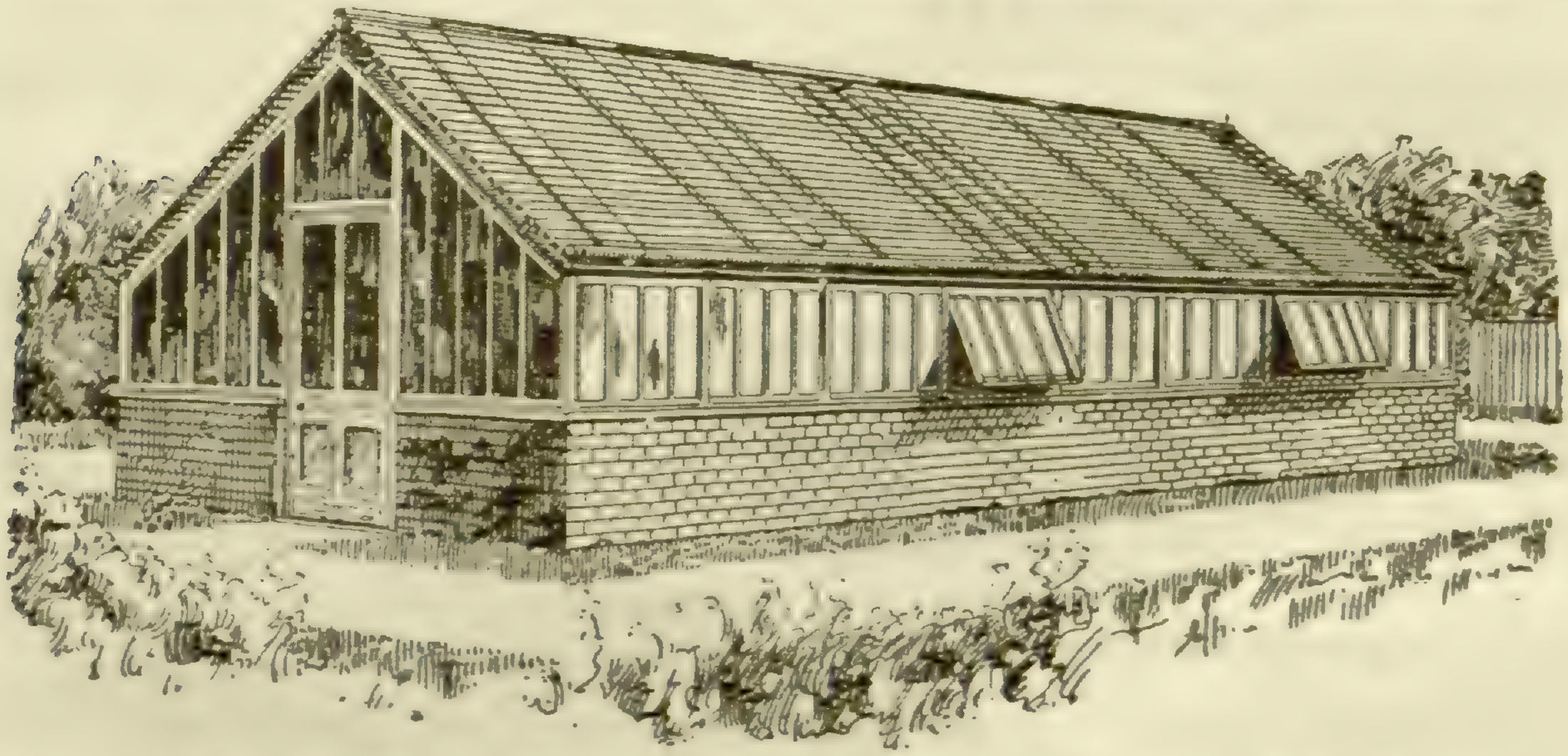

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VOL. XIX., No. 218. THE FEBRUARY, 1911.

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An Illustrated Monthly Journal.

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VOL. XIX.] *FEBRUARY*, 1911. [No. 218.

THE ORCHID STUD-BOOK.

IN concluding the *Orchid Stud-Book* the intention was announced of publishing future additions in the *Orchid Review*, so as to prevent the work from falling out of date, and we have now pleasure in giving the first instalment. It has long been foreseen that some modification of the arrangement was necessary, the indiscriminate mixing of primary, secondary and more complex hybrids in one list, according to the exigencies of an alphabetical arrangement, not being at all satisfactory. The remarkable amount of reversion seen in secondary hybrids renders them a class by themselves, a matter not so fully realised when the work in question was commenced, but which was explained in detail with the preface (p. vi.). Other modifications have been found necessary in the different method of publication, one of them being the omission or postponement of the separate classification under the parents (Part I. of the *Stud-Book*).

The departure from a strict alphabetical arrangement allows us to take the genera more in the order of their importance, and we have commenced with Odontioda, in which remarkable progress is being made, the five primary hybrids of the *Stud-Book* having been trebled, while at least fourteen secondary hybrids have been added, four of which have an Odontioda for one parent, while in three cases both parents are themselves hybrids.

The arrangement largely explains itself. But we may add that primary hybrids are derived direct from species, hence those having one or both parents of hybrid origin are treated as secondary. Secondary hybrids may be of various degrees of complexity, but it is feared that any attempt to subdivide them further would entail unnecessary difficulties. In both cases plants of identical parentage are brought under the same name. In the case of primary hybrids it is practicable to regard all as forms of the original, but with the amount of reversion known to occur among secondary hybrids, even from the same capsule, one can only bring them together to indicate their common origin. Those of unknown parentage are enumerated at the end, in the hope that their origin may be ascertained later. We hope that any error or omission will be pointed out, and we will at once rectify it.

We have not attempted a complete list of references, which would have overburdened the work. In the majority of cases the plants have already been recorded in the *Orchid Review*, and we have cited the volumes and page, with additional references to published figures. This is followed by the raiser or exhibitor, and a reference to any award, as a clue to the decorative value of the plant.

ODONTIODA (continued from *Orchid Stud-Book*, p. 281).

PRIMARY HYBRIDS.

O. CHARLESWORTHII (C. Nœtzliana ♀ × O. Harryanum), *O.R.*, 1908, 182, 185; *G.C.*, 1908, i. 353, f. 161; *G.M.*, 1908, 439, 456, f.: *J.H.*, 1908, i. 583, f.—Charlesworth. F.C., R.H.S.

Fig. 3. ODONTIODA CHELSEIENSIS.

O. CHELSEIENSIS (C. vulcanica ♀ × O. crispum), *O.R.*, 1909, 48, 222, f. 5; *G.C.*, 1909, i. 347, 348, f. 153; *G.M.*, 1909, 70, f.; *J.H.*, 1909, i. 47, f. —Bull.

O. CRAVENIANA (C. Nœtzliana ♀ × O. cordatum), *O.R.*, 1908, 41, 43; *G.M.*, 1908, 25, f.—Charlesworth. A.M., R.H.S.

O. CUPREA (C. Nœtzliana ♀ × O. cristatum), *O.R.*, 1910, 86, 94.—Sander.

O. EUTERPE (C. Nœtzliana ♀ × O. Uroskinneri), *O.R.*, 1910, 149.—Graire.

O. GATTONENSIS (C. Nœtzliana × O. Kegeljani), *O.R.*, 1909, 58, 242; 1910, 218.—Colman, Crawshay. A.M., R.H.S.

O. GRAIREANA (C. Nœtzliana × O. Rossii), *O.R.*, 1909, 306, 315.—Graire. Certificate of Appreciation, R.H.S.

O. KEIGHLEYENSIS (C. Nœtzliana ♀ × O. cirrhosum), *O.R.*, 1909, 86.—Charlesworth. A.M., R.H.S.

O. LUTETIA (C. Nœtzliana ♀ × O. luteopurpureum), *O.R.*, 1908, 117, 125; 1909, 86; *G.M.*, 1909, 159, f.; *J.H.*, 1909, i. 159, f.—Charlesworth. F.C., R.H.S. Feb., 1909.

O. NEVENSIS (C. Nœtzliana × O. nevadense ♀), *O.R.*, 1910, 210, 220. —Thompson.

O. SEUENACCA (C. Nœtzliana ♀ × O. Hunnewellianum), *O.R.*, 1910, 247.—Crawshay.

O. SEYMOURII (C. vulcanica × O. Uroskinneri), *O.R.*, 1910, 86, 372.—Thwaites.

O. THWAITESII (C. vulcanica ♀ × O. Harryanum), *O.R.*, 1908, 246, 247. O. Thwaitesiæ, *J.H.*, 1908, ii. 147, f.—Thwaites.

O. WICKHAMIENSIS (C. sanguinea × O. crispum), *O.R.*, 1908, 203, 204.—Bird. A.M., R.H.S. The Cochlioda parent was first recorded as C. rosea, but afterwards corrected to C. sanguinea.

O. WILSONII (C. vulcanica ♀ × O. nobile), *O.R.*, 1910, 308, 312.—Thwaites.

SECONDARY HYBRIDS.

O. BEECHENSIS (C. Nœtzliana ♀ × O. Rolfeæ), *O.R.*, 1910, 152.—Craven. A.M., Manch. O. S.

O. CASSIOPE (C. Nœtzliana ♀ × Odontioda heatonensis), *Rev. H.*, 1910, 528.—Exhibitor?

O. CECILIA (C. Nœtzliana ♀ × O. Wiganianum), *O.R.*, 1910, 214, 309.—Thwaites. A.M., R.H.S.

O. CORNEYANA (C. Nœtzliana ♀ × O. Lambeauianum), *O.R.*, 1910, 123, 221.—Craven. F.C., Manch. O. S.

O. DIANA (C. Nœtzliana ♀ × O. amabile), *O.R.*, 1910, 121.—Craven, A.M., Manch. O. S.

O. (unnamed), *O.R.*, 1909, 206.—Charlesworth.

O. ERNEST HENRY (C. Nœtzliana × O. Charlesworthii), *O.R.*, 1909, 133, 146; *G.C.*, 1909, i. 321, f.138; *J.H.*, 1909, i. 483, f.—Goodson. F.C., R.H.S.

O. GOODSONIÆ (C. Nœtzliana × O. armainvillierense), *O.R.*, 1909, 115, 117; 1910, 147, 217; *G.C.*, 1909, i. 194, 195, f. 83; *G.M.*, 1910, 302, f.—Goodson, Thompson. A.M., R.H.S. April, 1910.

O. Cooksoniæ, *O.R.*, 1909, 183, 187, 188.—Cookson. A.M., R.H.S., Jan., 1911.

O. Wardiæ, *O.R.*, 1910, 121.—Ward.

O. LEEANA (C. Nœtzliana ♀ × O. spectabile), *O.R.*, 1910, 153.—Lee. F.C., Manch. O.S.

O. ST. FUSCIEN (C. Nœtzliana ♀ × O. Adrianæ). *O.R.*, 1908, 181, 185; 1910, 218; *G.C.*, 1908, i. 353, f. 162; *G.M.*, 1910, 457, f. (v. Imperator). — Graire, Thwaites. A.M., R.H.S.; May, 1908, F.C., June, 1910.

O. KING GEORGE V. (Odontioda Vuylstekeæ ♀ × Odontoglossum laudatum), *O.R.*, 1910, 183; *G.C.*, 1910, i. 349, f. 150; *J.H.*, 1910, i. 507, f. —Vuylsteke. F.C., R H.S.

O. ROSY GEM (Odontioda Vuylstekeæ ♀ × Odontoglossum armainvillierense), *O.R.*, 1910, 183.—Vuylsteke. A.M., R.H.S.

O. SENSATION (Odontioda Vuylstekeæ ♀ × Odontoglossum crispum), *O.R.*, 1910, 171.—Vuylsteke.

O. SCYLLA (Odontioda heatonensis ♀ × Odontoglossum amabile), *O.R.*, 1909, 207.—Charlesworth.

O. ZEPHYR (C. Nœtzliana ♀ × O. Wilckeanum), *O.R.*, 1911, 44.—Thwaites.

PARENTAGE UNKNOWN.

O. eboriacum, *O.R.*, 1909, 154.—Craven. F.C., Manch. O. S.

O. Hyeana, *Rev. H. Belge*, 1909, 144.—Duchesne & Lanthoine.

O. Lambeauiana, *Rev. H. Belge*, 1909, 178; *O.R.*, 1910, 170.—Lambeau.

O. watermaelensis, *Rev. H. Belge*, 1909, 60.—Duchesne & Lanthoine.

R.A.R.

CATASETUM SCURRA.

THIS interesting, and, I believe, long-lost Catasetum, has just reappeared in the collection of Mrs. F. B. Lipscomb, Atherton, Wilton Grove, Wimbledon. It was described in 1872, by Reichenbach (*Gard. Chron.*, 1872, p. 1003), from a plant which flowered in the collection of W. Wilson Saunders, Esq., Hillfield House, Reigate. It was compared with C. Warscewiczii, Lindl., and was said to have a hanging inflorescence of five flowers, as large as those of a good-sized Odontoglossum pulchellum, white with green veins, becoming violaceous at the internal base of the spur, where was also some orange, and at the base of the column. In February, 1877, what was supposed to be the same thing flowered in the collection of Sir Trevor Lawrence, at Burford, and received a Botanical Certificate from the R.H.S., being afterwards figured (*Gard. Chron.*, 1877, i. pp. 202, 304, 305, fig. 50, 51). Flowers were at the same time sent by Sir Trevor to Mr. John Day, who made one of his characteristic paintings (*Orch. Draw.*, xxi. t. 7). This drawing, however, has light green flowers, and I believe

represents the original Catasetum Warscewiczii (Lindl. in *Paxt. Fl. Gard.*, i. p. 45, fig. 29), with which it agrees precisely. The latter species was collected by Warscewiczii in Panama, at 100-400 feet altitude, and was introduced by Mr. Skinner, and flowered in the collection of J. D. Llewelyn, Esq., Penllergare, Swansea, in April, 1850. Catasetum scurra was described as a native of Demerara, but I believe this is a mistake, for Mrs. Lipscomb remarks that her plant was sent from Panama, and it agrees precisely with the original description. The two species are very nearly allied, and the question arises whether C. scurra may not be a white variety of C. Warscewiczii. In any case it is interesting to recover the long-lost white-flowered plant. The history of Catasetum Warscewiczii has already appeared (*O.R.*, iii. p. 106). R.A.R.

THE AMATEUR'S ORCHID HOUSE.

By ALWYN HARRISON.

(*Concluded from page* 15).

LAST month I completed a brief survey of my Orchid house, and the plants which are now grown, and it remains to deal with the separate structures for the Cypripediums and Odontoglossums.

CYPRIPEDIUM FRAME.

The small size of my house necessitated my finding other accommodation for the Cypripediums, and a frame built from the end of the Orchid house, and heated by the hot-water pipes being carried through from the house, was erected. The depth of the frame at the back is 3ft. 6in., and in front 9 inches, so that ample light is admitted. The plants are stood on pans or on tiles, according to height, these being placed on the natural earth. Such a small frame retains the heat well, and the plants are sprayed usually twice a day from the end of March till the beginning of October, but during the winter they are kept drier, as they are liable to damp in this frame.

For compost I use good yellow loam, a little mortar rubble and osmunda fibre. I keep my plants as a rule small by frequent division, as an overcrowding of growths at the centre prevents satisfactory flowering. A few plants are, however, useful for conservatory decoration, and in repotting these I pull them to pieces, and plant each portion round the edge of the pot and a few in the centre. In this way plenty of room is given for development. When in bud I remove the plants to the house, placing them among the Læliocattleyas on the staging.

I sow my Cypripedium seed on the compost of a plant of this genus, and the raising of these seedlings is not difficult, but care must be taken to water the plant on which the seed is sown only with a fine sprayer, otherwise the seed would be washed away. Shade on all bright days by

covering the glass with a mat, and remove it when the sun is not shining on the frame. When the Cypripedium seedlings are removed from the pot on which they germinated, I pot these singly and place them in the seedling frame till they become too large.

I have made several experiments with Cypripediums, and have formed two definite conclusions in regard to them. Firstly, that finer blossoms are produced if a little dry guano is added to the compost, about a teaspoonful to a 48-sized pot. Cypripedium insigne was the first plant on which the above treatment was tried, and the result was so gratifying that it is now practised on all the others. Another experiment I made was to ascertain the most suitable compost for these Orchids. Four 32in. pots of Cypripedium insigne were placed side by side at the back of the frame. In one a compost of peat and moss was used, in the second leaf-soil and moss, in the third loam, mortar rubble, and osmunda, and in the fourth polypodium fibre and moss. After a year and a-half's growth it was evident that the third was the most suitable. All my Cypripediums are now potted in that compost.

ODONTOGLOSSUM HOUSE.

There yet remain the Odontoglossums about which I have not yet spoken. The Carnations and Roses having all been removed, I grow my Odontoglossums in the ordinary greenhouse, at the end next to the partition separating the houses. The pots are stood on pans or saucers, according to height, these in turn being placed on tiles. To all plants in growth I give a good supply of water, whatever may be the season, but in winter I prefer to let the surface moss become fairly dry before watering the plant. From the end of March till November I syringe the pots twice daily and overhead on fine days. These plants are kept more shaded than the occupants of the other house. As soon as a plant of this genus has done flowering I remove it to the other end of the house, and keep it drier till a fresh start is made. It is then returned to its rightful position, and water given, increasing gradually in quantity.

I repot my Odontoglossums when the new growth is about two inches long, and remove all back bulbs, leaving three to support the lead. I repot every two years, and use the following compost: polypodium and sphagnum moss in equal parts, with a few oak leaves mixed with the whole. I prefer fern rhizomes to crocks for drainage for these plants. At the present time I am experimenting in feeding several plants of Odontoglossums, but cannot yet recommend or depreciate any stimulant; for a nine months' trial, at least, should be given.

I must now close this survey of my house and plants, and hope that this article may be of interest, especially to the amateur readers of this excellent monthly.

HABITAT OF CYMBIDIUM TRACYANUM.

OCCASIONALLY a fine Orchid finds its way into cultivation almost by stealth —at least without any definite record of its origin—as was the case with the handsome Cymbidium Tracyanum over 20 years ago. This plant flowered quite unexpectedly in the establishment of Mr. H. A. Tracy, at Twickenham, in December, 1890, when it received a First-class Certificate from the R.H.S., and a few days later it was sold at Messrs. Protheroe & Morris' Sale Rooms for 75 guineas, being purchased by the late Baron Schröder. All that was known of its origin was that it had been purchased by Mr. Tracy some two or three years previously as an imported C. Lowianum. For some time it remained unique at The Dell, and in December, 1893, a fine spike of it was exhibited at a meeting of the R.H.S., and was awarded a Botanical Certificate and a Cultural Commendation (*O.R.*, ii. p. 31).

In January, 1895, another plant appeared, being exhibited at a meeting of the R.H.S. by Mr. J. Prewett, Swiss Nursery, Hammersmith (*O.R.*, iii. p. 64). By this time the idea had somehow got about that it might be a natural hybrid between C. grandiflorum and C. giganteum, and soon afterwards Mr. Tracy asked the writer if he could throw any light upon its origin. Was it a species, or a natural hybrid? I could not answer definitely, but in the following autumn another plant flowered in the collection of W. J. Woodhead, Esq., Maghull, Liverpool, and this was said to have been received from Upper Burma. I then remarked that the facts pointed to its being a distinct geographical form (*O.R.*, iii. p. 360). Then a flower was sent by Messrs. Sander, with the record that the plant had been received from Upper Burma (*O.R.*, iv. p. 3). About the same time a plant flowered with Mr. Steel, Philipsbaugh, Selkirk, a flower of it and of C. grandiflorum being sent to Mr. J. O'Brien, with the information that both came out of the same importation, and were received from a friend of Mr. Steel in Burma. They were small plants when received, but were now in 9-inch pots, and were flowering for the first time. This was held to strengthen the supposition of its hybrid origin, and it was remarked that it probably only grew in a small area where C. grandiflorum and C. giganteum mingled or approached each other (*Gard. Chron.*, 1896, i. p. 10).

Soon afterwards other plants appeared, and the information came out that it was being received in importations of C. Lowianum. In fact it was becoming common, and evidently was not a natural hybrid. In 1900 it appeared in a new role, for when C. I'Ansoni appeared, also unexpectedly among importations of C. Lowianum, it was described as probably a natural hybrid between C. Lowianum and C. Tracyanum (*O.R.*, viii. pp. 191, 209, fig. 34), and it was suggested that a few experiments should be made with a view to clearing up some of the accumulating mysteries.

But at last we have some definite information as to the habitat of C. Tracyanum. A number of Orchids were collected at Chengmai, Siam, by Dr. Alexander Kerr, and have been cultivated at the Trinity College Botanic Garden, Dublin. One of them was a Cymbidium, which has now flowered, and proves to be C. Tracyanum, thus affording a definite clue to its habitat.

Chengmai is situated in N.W. Siam, some 300 miles S.S.E. of Bhamo, one of the earliest-recorded localities of C. Lowianum, which also occurs further east in Yunnan, and about 20 miles east of Fort Stedman, in the Southern Shan States, where it was found by the late R. Moore (*O.R.*, iii. p. 169). It doubtless occurs in other localities in the Shan States, in some of which it evidently grows intermixed with C. Tracyanum. It is now evident that the latter grows on both sides of the Siamese frontier, and we may regard it provisionally as a native of the Southern Shan States, part of which are in Burma and part in Siam. Here is a large tract of mountainous country of which the flora is very imperfectly known, which may partly account for the mysterious way in which this fine species appeared in cultivation, and the difficulty since experienced in tracing its history.

R. A. R.

MANURE FOR ORCHIDS.

CAN you obtain and publish any further information as to the advisability and best method of manuring Orchids? I used the Cookson Formula last season on several Cattleyas and Dendrobiums without any apparent injury to the plants, and they certainly made good growth under the treatment. In Australia plants have to be potted with much more drainage than is usual in England, as owing to the scarcity of labour the watering has to be done with the hose, and the compost must be very firm and open. Leaf mould is out of the question, and it seems as if we must rely on some chemical manure to supply the natural food the plant requires. Perhaps some of your correspondents will give their experience in this most important detail in Orchid culture. In going through some of the back volumes of the *Orchid Review* I find that the American growers use manures systematically. Could they let your readers know the result of their experience? Do the plants die out after a few years forcing with manure? One would think that if not used to excess the manuring should prolong the life of the plants. In any case the want of reliable information is unsatisfactory. Could you also say if there is any remedy for black spot in Calanthes? The usual opinion is that once the bulbs are attacked they can never be cured of it. Is this so?

Sydney. ARTHUR YATES.

We hope that some of our readers will give their experience.—ED.

PAPHIOPEDILUM SLADDENII.

THE annexed figure represents a very beautiful hybrid raised by Messrs. Sander & Sons, St. Albans, from Paphiopedilum glaucophyllum and P. bellatulum—the former, we believe, being the seed parent—and is reproduced from a photograph taken by Mr. Gregory, of Croydon, and kindly forwarded by Messrs. Sander. It has retained much of the P. bellatulum habit, and broad rounded segments, while the colour is cream white, tinged with rose, and beautifully veined and dotted with purple on the dorsal sepal and petals. The influence of P. glaucophyllum, which is not

Fig. 4. PAPHIOPEDILUM SLADDENII.

very obvious in the figure, can be readily traced in the living flower. It will probably be more apparent as the plant gets stronger and develops more of the racemose character. The quite diverse parents have combined well, yielding a very charming little hybrid, which is dedicated to Mr. Charles Sladden, of Liege, Belgium. It received an Award of Merit from the R.H.S., on January 17th last, under the name of Cypripedium Charles Sladden ("Sladdin").

warmer one, to be brought on in batches, as recommended in the previous Calendar, keeping them on the dry side until the flowers are fairly well advanced, or else they may turn to aërial growths, and frustrate one's efforts to produce their flowers at an early season.

BULBOPHYLLUMS and Cirrhopetalums that have started to push their new roots may be shifted into larger receptacles, if they need it, using the compost recommended for Miltonias. Some of them are very interesting, and have a beauty entirely their own, and no collection is complete without some of them in it.

CALANTHES, as they pass out of flower, should be carefully rested, and kept entirely dry. The best place for them is a shelf in the Intermediate house, where they will get all the sun and light possible to thoroughly ripen their bulbs.

THRIP, and other insect pests, must be watched for at this season, for the extra fire heat required to maintain the temperatures makes the conditions in which these pests revel. When any plant is subject to constant attacks of these pests, we may take it for granted that it is not in its proper conditions, and fresh quarters should be found for it.

VENTILATION must have every attention during the month, and no opportunity of admitting fresh air into the houses should be lost. I always try, as far as possible, to use both top and bottom ventilators together, but in such a way that no draught is caused. This is done by using the ventilators on the lee side of the house, and not opening them too wide. It is astonishing the difference in a house suitably ventilated and one where the ventilators are improperly manipulated, and I am sure that many failures are due to this cause. I think that it is in these small matters where many go astray.

THE HYBRIDIST.

ONCIDIODA PENELOPE.—An interesting hybrid, derived from Cochlioda Nœtzliana ♀ and Oncidium leucochilum ♂, was exhibited by Messrs. Charlesworth & Co., Haywards Heath, at the R.H.S. meeting held on January 17th last. The plant had much of the Oncidium habit, and bore a lax spike of flowers, one of which was kindly given to us. The sepals and petals are much like those of the Oncidium in shape, slightly reflexed, and reddish orange in colour. The lip is strongly four-lobed, and buff yellow, with a strongly four-lobed crest. The column is short, nearly free, buff yellow, and the wings broad, acute at the apex, and denticulate.

ODONTIODA ZEPHYR.—A pretty little hybrid raised in the collection of R. G. Thwaites, Esq., Streatham (gr. Mr. Black), from Cochlioda Nœtzliana ♀ and Odontoglossum Wilckeanum ♂. It was exhibited at the R.H.S. meeting held on January 17th, and may be described as about

intermediate between Odontioda Bradshawiæ and O. Lutetia, but the flowers are at present smaller. The sepals and petals are orange-red, with paler margins and apex, and some yellow markings at the base of the petals. The lip is yellow, with red margins to the side lobes, and a large red blotch in front of the crest, the latter being lined with red between the lobes and on the sides.

ODONTOGLOSSUM NIOBE.—A very pretty hybrid raised by Messrs. Sander & Sons, St. Albans, from O. elegans ♀ and O. armainvillierense ♂, and fairly intermediate in character. It has distinctly acuminate white sepals and petals, with very broad, rich red-brown bands on the broader basal part. The lip is pandurate, with a broad acute front lobe, and a broad, deep red-brown blotch in front of the crest. The base and crest are light yellow, with red spots, and show much of the character of O. cirrhosum. It was exhibited at the R.H.S. meeting held on January 17th last.

BRASSOCATLÆLIA FRAGNEANA.—A handsome hybrid raised in the collection of M. J. Ginot, St. Etienne, France, from Cattleya Trianæ spectabilis ♀ and Brassolælia Gratrixiæ ♂. The flowers are of good shape, and the sepals and petals Indian yellow with a rosy suffusion, the petals being broad, and over 2½ inches long. The lip is entire, neatly fringed, with a yellow throat, and a rosy suffusion in front. The flowers sent are the best out of half-a-dozen plants now flowering for the first time. It is a hybrid of much promise, comparable with Brassocatlælia Fowleri in general character.

LÆLIOCATTLEYA DESGRANGEANA.—Another fine hybrid sent by M. Ginot, received by him, in exchange, with the record Cattleya labiata ♀ × Lælia lobata ♂, which appears to be correct. The plant is said to resemble the pollen parent in habit, and combines very well the characters of the two, being of good shape and bright purple in colour, with a rather darker front lobe to the lip, and a little yellow in the throat.

PAPHIOPEDILUM MAY.—Raised by Messrs. James Veitch & Sons, Chelsea, from P. Euryades maculatum ♀ and P. glaucophyllum ♂, and exhibited at the R.H.S. meeting held on January 3rd last. The single seedling is now at Kew, and a flower of the actual seed parent has been sent for comparison. The broad, spreading leaves, the two-flowered inflorescence, and the lip show the character of P. glaucophyllum, but the flower is more like the seed parent in size and shape. The dorsal sepal is nearly orbicular, closely dotted and marbled with purple on a light ground, with a green base, and the petals and lip marked with purple. The scape is twin-flowered at present. The seed parent is a handsome thing, having the dorsal sepal nearly covered with dark purple-brown blotches.

LÆLIA ANCEPS AT HOME.

AN enquiry has reached us as to the conditions under which the beautiful Lælia anceps grows in a wild state, and the following extract from an article by M. L. Kienast-Zolly, which appeared in 1887 (*Gard. Chron.*, 1887, i. pp. 413-414), may be interesting :—

During my long residence in Mexico I have many a time found plants of Lælia anceps growing in my Coffee plantation, in the neighbourhood of Cordova, in the State of Vera Cruz. I always met with them on the borders of the virgin forests, growing on the trunks of trees and on the very slender branches, exposed to a powerful sun and to strong winds, often also clinging to the rocks covered with the remains of leaves and moss under the same conditions. During the rainy season—from May to October—these plants are daily drenched by the torrents of rain of which they experience the full force, often for five consecutive hours, and are thoroughly wet throughout the night. About 6 o'clock in the morning a sharp and fresh wind coming down from the highest peaks of the Cordilleras—many of which are capped with perpetual snow—begins to dry the plants—a work which the burning sun completes, pitilessly shining on them for several hours, until the daily storm drenches them afresh. Under these conditions Lælia anceps grows with extraordinary vigour, and flowers about the end of October or November, just at the time when the new bulbs arrive at their perfect development. The rainy season has been over some weeks, and the absence of water, combined with the strong winds, commences to produce an opposite effect; growth stops, the newest bulbs become firm, and ripened so as to prepare the plant for a thorough and necessary rest. About the end of February, from the base of the new bulbs are seen to appear six to ten or more new roots. It is at the time of the short rainy season —the *chipichipi* of the Indians, the Golden Rain of the Coffee planters—when very fine rain falls almost like a fog. These young roots eagerly seek the neighbouring débris and moss, but their tips are always in the air. The *chipichipi* does not saturate the plants, as it is too weak, and hardly able to refresh them: thus the plants rest, getting plenty of repose until the new roots, nourished by the continually increasing dew, have attained their full development. Then—in March—the new growth appears at the bases of these latter bulbs. **It is the time of awakening.**

Here is a fact which has often struck me: the bulbs of plants fully exposed to the sun are always large, hard, and of a reddish colour, the leaves leathery and broad; whilst those plants which grow more in the shade have longer and thinner bulbs and leaves. This may be noticed even in the same clump, when part of the bulbs are obliged to grow in the sun, and others in slight shade.

I have often heard great complaints concerning the unsuccessful culture of white varieties of L. anceps, but which I find unjustified, as there is nothing more easy than to grow these plants as well as the type; with the exception that the white-flowered forms need a temperature of 1 to 3 F. higher in winter, as they come from the Pacific coast, which is warmer than that of the Gulf of Mexico.

L. anceps is widely distributed along the eastern side of the Cordilleras, from Jalapa southwards to Orizaba. There are many varieties to be met with there, such as L. a. Barkeri, and later on L. a. Dawsoni, found by M. Finck in the neighbourhood of Cordova, growing on a tree which was covered with it, but which was stripped in 1874 by an Indian collector, who sold the plants in Mexico, where they were all lost. In more recent times the new and chaste varieties known as Schrœderi, with very thick short bulbs, Percivaliana, Veitchii, Williamsi, vestita, rosea, Hilliana, &c., have been discovered. As far as I know nobody looks for Lælia anceps in other districts of Mexico. . . . What was my surprise when, in 1883, one of my collectors announced that he had found on the Pacific coast, in the midst of a large virgin forest, on cold ground, an enormous rock covered with Lælia anceps with white flowers. These plants were sent off to me, the collector giving the following brief description:—1, a variety with flowers perfectly white with a little yellow in the centre; 2, white, with crimson (solferino) in the centre; 3, a plant with blush flowers and crimson in the centre.

After cultivating them for two years I sent flowers of these three types to Professor Reichenbach, who called them new varieties as follows:—1, Lælia anceps munda; 2, L. a. Dawsoni pallida; and 3, L. a. Kienastiana. Since then other white varieties have been introduced from the Pacific coast, as L. a. var. Stella and L. a. var. Sanderiana, of equal beauty.

LÆLIA CRAWSHAYANA VAR. THORPIÆ.

A VERY interesting hybrid Lælia has been raised by H. Thorp, Esq., Boothroyden, Rhodes, Middleton, from L. anceps morada crossed with the pollen of L. albida, of which the two-flowered inflorescence has been kindly sent. Mr. Thorp remarks that the plant is nine years old from sowing the seed, and that the pseudobulb is rounded or ovoid, slightly corrugated, $2\frac{1}{4}$ inches long, and two-leaved—not at all like L. anceps in shape—and that the leaves are about 8 inches long. The flowers are comparable with those of L. Crawshayana in shape and texture, but slightly darker in colour. The agreement in the spathulate front lobe of the lip is very marked, and I believe it must be regarded as a variety of the same.

L. Crawshayana was described by Reichenbach as long ago as 1883.

(*Gard. Chron.*, 1883, i. p. 142), from a plant which flowered in the collection of De Barri Crawshay, Esq., Rosefield, Sevenoaks, the author remarking: "I thought of a hybrid between Lælia anceps and autumnalis, but the possessor, partly guided by the leaves, partly by the divaricate dark purple veins on the throat of the lip, prefers thinking of L. albida Stobartiana and L. anceps." Mrs. Crawshay afterwards stated: "In the same mass of plants from which came the two plants of Lælia Crawshayana which I bloomed, I also bloomed L. albida Stobartiana, a broader variety than the common L. albida. They were all three seedlings of about the same age (*l. c.*, 1890, i. p. 78).

Other plants were subsequently referred to L. Crawshayana, not always correctly, and a discussion arose as to the parentage, which is re-opened and only partly settled by the appearance of the above hybrid, for two, if not three hybrids are included under the records, as will be seen from a brief recapitulation of the facts.

Almost immediately after L. Crawshayana was described, Mr. W. Gostling wrote about another plant in the collection at Sudbury House, Hammersmith (*Gard. Chron.*, 1883, i. p. 180), but from the description I believe this was not L. Crawshayana, but a hybrid between L. anceps and L. autumnalis. Over a year later Reichenbach described a plant from the collection of M. A. A. Peeters, Brussels, as L. C. var. leucoptera (*l. c.*, 1884, i. p. 577). It afterwards passed into the collection of Baron Schröder, and I pointed out its distinctness, and called it L. leucoptera, suggesting L. albida and L. autumnalis as the parents (*l. c.*, 1890, i. pp. 42, 135).

In 1888, Reichenbach described L. Gouldiana, remarking that it was near L. Crawshayana, and might be a variety of it, or derived from the reverse cross, and he further suggested L. autumnalis and perhaps L. anceps as possible parents (*l. c.*, 1888, i. p. 41). Shortly afterwards I had to deal with L. Crawshayana in the List of Garden Orchids, and remarked, "It is probably a natural hybrid between L. albida and L. anceps" (*l. c.*, p. 256), though I had not then seen the original plant.

In 1890 the accession of fresh materials re-opened the question, and Mr. Crawshay showed that plants passing in gardens as L. Crawshayana were different from his original (*l. c.*, 1890, i. p. 78). About this time another plant of L. Crawshayana flowered with Messrs. Sander, which I remarked "seems to me a hybrid between L. albida and L. anceps" (*l. c.*, p. 135).

Shortly afterwards Mr. Thorp made the experiment which now proves the correctness of this view, for his seedling possesses the same essential characters as L. Crawshayana. A figure of the original L. Crawshayana appeared in 1895 (*Gooss. Dict. Ic. Orch.*, Lælia hyb. t. 8).

R.A.R.

SIR TREVOR LAWRENCE, BART.

WE have now the pleasure of presenting to our readers a portrait of Sir Trevor Lawrence, Bart., K.C.V.O., V.M.H., President of the Royal Horticultural Society, one of our oldest and most consistent lover of Orchids, to whom it will be remembered our last volume was dedicated. How long

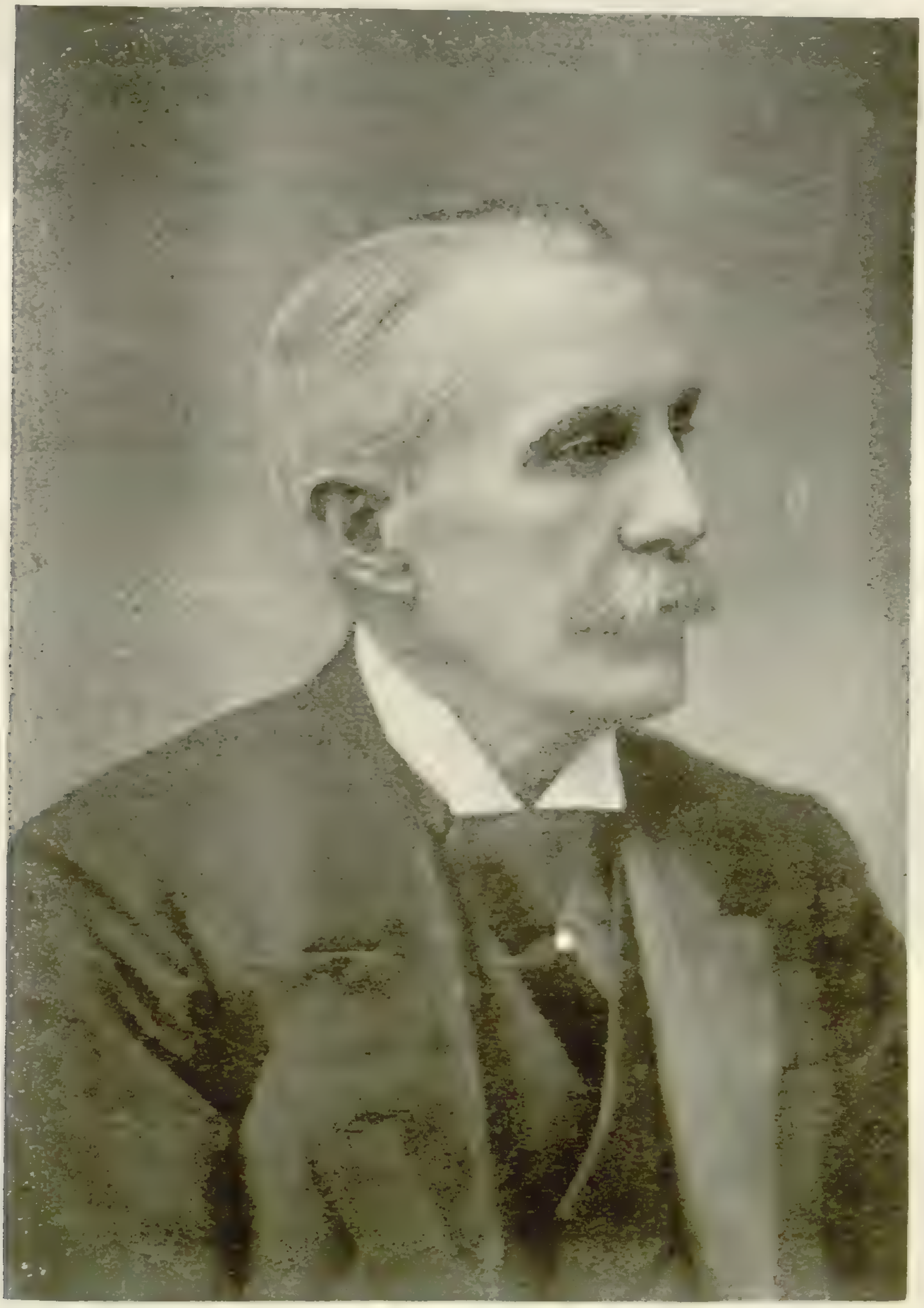

Fig. 5. SIR TREVOR LAWRENCE, BART., K.C.V.O., V.M.H.

Sir Trevor has been a lover of Orchids we dare not say, for indeed he must have grown up among them. His worthy mother, Mrs. Lawrence, of Ealing Park, to whom Sir William Hooker dedicated the 68th volume of the *Botanical Magazine* (1842), being one of the most successful Orchid

growers of the period, and the winner of many awards at the Shows of the Horticultural Society at Chiswick, and the Royal Botanical Society at Regent's Park. Over 40 years ago, on his marriage, Sir Trevor took up his residence at Burford Lodge, near Dorking, a charming residence sheltered by the precipitous chalk cliffs of Box Hill, rising to an altitude of 445 feet, and here he has formed one of the richest collections of Orchids in existence, which, under the charge of the late Mr. J. C. Spyers, and since his death of Mr. W. H. White, has long been noted for the variety of its contents and the excellence of its culture.

Sir Trevor, who had long been a Member of the Council of the R.H.S., was elected President in February, 1885, on the retirement of Lord Aberdare, and in the following May he presided over the deliberations at the Orchid Conference. In the course of his address on that occasion he remarked: "I do not think anybody can walk around the Show to-day without thoroughly understanding how men who are fond of Orchids come to be enthusiastic about them. If you want to find a justification for the hobby, I would say, walk once or twice round the Show and you will find it. Whether you regard the splendour and richness of colouring, the delicate grace and beauty of the flowers, or the weird and fantastic characters of some of them, I think you will understand the affection Orchid growers have for their children." Sir Trevor has remained loyal to his first-love, and his remarks would be equally applicable to a walk round the thirteen houses in which his own collection is grown to-day. It would be interesting to trace its history, but we must content ourselves by remarking that numerous details have already appeared in our pages (i. pp. 15-19; v. pp. 206-208; xii. pp. 132-134; xiv. pp. 270-272; xviii. pp. 257-261). One of the oldest plants in the collection is Renanthera coccinea, having been there about 33 years. This individual is said to have been imported from China as long ago as 1815, and to have passed through many collections before reaching Burford.

To Sir Trevor's long and distinguished career as President of the R.H.S., we need not allude, but we may mention that some time ago the Society decided to strike a medal in his honour, to be called the Lawrence Medal, and to be awarded to specially noteworthy exhibits. The first medal was presented to Sir Trevor, and that for 1909 to Lt.-Col. G. L. Holford, C.I.E., C.V.O., in recognition of the beautiful exhibits of Orchids made by him during the year.

Sir Trevor has an extensive library of Orchid literature, and a Scrap Book in which interesting figures and extracts are arranged for convenience of reference. His example and enthusiasm have exercised an enormous influence upon Orchid culture, and we hope may continue to do so for many years to come. For the loan of the block we have to thank the Council of the Royal Horticultural Society.

SOCIETIES.

ROYAL HORTICULTURAL.

THE first meeting of the year was held at the Royal Horticultural Hall, Vincent Square, Westminster, on January 3rd, when there was a fine display of Orchids, and the Awards consisted of one Gold and four other Medals, two Awards of Merit, and one Cultural Commendation.

Orchid Committee present: J. Gurney Fowler, Esq., in the Chair, and Messrs. J. O'Brien (Hon. Sec.), de B. Crawshay, R. G. Thwaites, H. Little, W. Cobb, F. M. Ogilvie, F. J. Hanbury, H. G. Alexander, A. Dye, J. Cypher, Stuart Low, C. H. Curtis, Gurney Wilson, W. H. White, J. Wilson Potter, and W. H. Hatcher.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black), staged a choice group, to which a Silver Flora Medal was awarded. It consisted of a series of Cattleya Maggie Raphael (Dowiana aurea × Trianæ alba) with white sepals and petals, and a rich crimson lip veined with golden yellow, showing much individual variation, but all very beautiful. There were also several good plants of Sophrocattleya Saxa and other Sophrocattleyas, also various Odontiodas, including the brilliant O. Charlesworthii.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. J. Davis), sent a fine example of Cypripedium Leeanum, J. Gurney Fowler, Cymbidium glebelandense (Schrœderi × insigne), an interesting hybrid, having greenish white sepals and petals with a faint rose tinge, and the lip dotted with rose in front, and with some darker lines on the side lobes, and two other good things mentioned under Awards.

Lieut.-Col. Sir George L. Holford, Westonbirt (gr. Mr. H. G. Alexander), sent Cypripedium Nydia (Niobe, Westonbirt var. × Charlesianum var. Minnie), having the dorsal sepal rose, with a claret-purple median line, and a white margin, and the petals and lip honey yellow marked with brown. He also sent a handsome Læliocattleya mentioned under Awards.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), sent the bright yellow Odontoglossum Wiganianum, Goodson's var., and a small Odontoglossum imported with Oncidium macranthum.

Sir John Edwards-Moss, Roby Hall, Torquay, sent a hybrid Odontoglossum with a double flower, the two lips being placed side by side, and and the numerous other segments arranged behind them.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent three fine Cypripediums, C. Cupid, white, with purple spotting on the dorsal sepal and petals, C. Col. Riordan, and C. Miss Alice Wallace.

A plant of Phaiocalanthe Sedeni was sent from the Society's gardens at Wisley.

Messrs. Armstrong & Brown, Tunbridge Wells, staged a magnificent group of Cypripediums, extending the entire length of the end of the Hall, to which a Gold Medal was awarded. It contained over 500 finely-grown plants of nearly 200 different kinds. There were masses of C. insigne varieties, including most of the best forms, many C. Leeanum and C. nitens, with numerous other kinds, among which were a very fine cross between C. Lathamianum and C. Euryades, a fine C. Beeckmanii, C. Cowleyanum, C. Niobe, and other Fairrieanum hybrids, C. Goliath, and others too numerous to mention. The group was excellent in every respect.

Messrs. James Cypher & Sons, Cheltenham, received a Silver Flora Medal for a choice group, including a selection of Masdevallias, Calanthes, Lycastes, and Cypripediums, noteworthy among the latter being good forms of C. Euryades, insigne, aureum, and Leeanum, a fine C. Beeckmanii, also pretty hybrids between C. Leeanum and C. Swinburnei, C. Euryades, and C. Mrs. Wm. Mostyn, and others.

Messrs. Stuart Low & Co., Enfield, also received a Silver Flora Medal for a bright group, including some good Lælia autumnalis, white and coloured forms of L. anceps, Cattleya labiata, C. Octave Doin, Renanthera Imschootiana, Cymbidium Tracyanum and insigne, Odontoglossums, Odontiodas, Oncidium varicosum Rogersii, O. bicallosum, O. crispum, Cypripedium Priam, C. Niobe, C. Curtmanii, and others.

Messrs. James Veitch & Sons, Chelsea, received a Silver Banksian Medal for a good group of Cypripediums, including forms of C. insigne, aureum and Euryades, C. Ville de Paris, C. Clionia, C. Thalia, &c.; also C. May, a pretty hybrid between C. Euryades and C. glaucophyllum.

Messrs. Charlesworth & Co., Haywards Heath, sent a small group, including Odontoglossum crispum xanthotes, O. Aireworth (Lambeauianum × crispum Alcyone), a fine, heavily-blotched flower, Læliocattleya bella alba (L. purpurata alba × C. Warneri alba), a fine thing with pure white sepals and petals, and a rich purple lip, Odontioda Bradshawiæ, two Cattleya Maggie Raphael with white sepals and petals, and Cypripedium Priam.

Messrs. J. & A. A. McBean, Cooksbridge, sent Odontoglossum crispum Canoniæ, a fine white form with regular claret-purple blotches, and a good hybrid between Cypripedium Beeckmanii and C. Euryades.

M. Maurice Mertens, Mont.-St.-Amand, Ghent, sent a few good hybrid Odontoglossums.

Messrs. Sander & Sons, St. Albans, sent Cypripedium Goliath, a large flower allied to C. Æson giganteum.

AWARDS OF MERIT.

ODONTIODA COOKSONIÆ (C. Nœtzliana × O. armainvillierense).—A fine

plant with a lateral branch to the inflorescence, and the flowers of perfect shape, and brilliant reddish scarlet, with a white margin and a pale rose tint on the front of the lip. Shown by J. Gurney Fowler, Esq.

LÆLIOCATTLEYA CRANSTOUNIÆ, WESTONBIRT VAR. (C. Harrisoniana × L. tenebrosa, Walton Grange var.).—A very handsome form, the inflorescence bearing six large flowers, with primrose yellow sepals and petals, and the lip white, with a rosy crimson veined blotch on each side of the front lobe, and a few dark lines at the base. Shown by Lieut.-Col. Sir George L. Holford.

CULTURAL COMMENDATION.

CYPRIPEDIUM CHRYSOTOXUM VAR. VICTOR (Lathamianum × villosum.—A very fine plant, with nine large flowers. To Mr. J. Davis, gr. to J. Gurney Fowler, Esq.

At the meeting held on January 17th there was a very fine display of Orchids, and the awards included one Gold and ten other medals, one First-class Certificate, four Awards of Merit, and two Botanical Certificates.

Orchid Committee present:—J. Gurney Fowler, Esq., in the Chair, and Messrs. J. O'Brien (Hon. Sec.), H. J. Veitch, de Barri Crawshay, H. Little, R. G. Thwaites, F. M. Ogilvie, W. Cobb, J. Cypher, W. H. Hatcher, A. Dye, C. H. Curtis, W. H. White, H. Ballantine, Gurney Wilson, W. Bolton, R. Brooman White, H. J. Chapman, S. Low, J. Wilson Potter, J. S. Moss, W. Waters Butler, and Sir Jeremiah Colman, Bart.

Mrs. Norman C. Cookson, Oakwood, Wylam-on-Tyne (gr. Mr. H. J. Chapman), was awarded a Silver-gilt Banksian Medal for a very interesting group of hybrids raised in the collection, including Cattleya Chapmanii (Trianæ × Hardyana), Cypripedium Kenneth (hirsutissimum × Calypsø), with much purple on the dorsal sepal, a good C. Venus, C. oakwoodiense, C. Regina (Leeanum × Fairrieanum), Lælia Degeestiana, the finely blotched Odontoglossum crispum Chapmanii (O. c. Cooksoniæ × O. c. Cooksonianum), Odontoglossum Telemachus (loochristiense × excellens, Prince of Orange), a good yellow form most resembling O. excellens, Odontioda Bradshawiæ, Cookson's var., and others.

Mrs. Geoffrey Lubbock, Broadoaks, West Byfleet (gr. Mr. J. B. Lowe), received a Silver Banksian Medal for a group of Dendrobium nobile and D. Wardianum.

E. Roberts, Esq., Park Lodge, Eltham, received a Silver Banksian Medal for a group of hybrid Cypripediums, including a fine C. Sir Redvers Buller with two twin-flowered scapes, C. Miss Mary Roberts (insigne × Actæus), a well-blotched flower, and other good things.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gr. Mr. Collier), staged a very interesting group, including the strikingly fringed Bulbo-

phyllum Dayanum, the graceful white and yellow B. auricomum, the rare Sarcochilus teres, Pleurothallis scapha, Masdevallia polysticta, Cypripedium Helen II., Gatton Park var., a good white flower dotted with purple, *Zygopetalum leopardinum*, Gatton Park var., and two others which received Botanical Certificates.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black), staged a very interesting group of hybrids raised in the collection, to which a Vote of Thanks was accorded. It contained several plants of Cattleya Blackii (Mendelii alba × Gaskelliana alba), all with a flush of pink in the flowers, two good C. Octave Doin, C. Leda (Percivaliana × Dowiana), Odontioda *Zephyr* (C. Nœtzliana × O. Wilckeanum), and a few other good things.

M. Firmin Lambeau, Brussels, De Barri Crawshay, Esq., J. Gurney Fowler, Esq., and F. Ducane Godman, Esq., sent interesting exhibits, which are mentioned under Awards.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), sent fine examples of Odontioda Lutetia and O. Goodsoniæ.

Mr. J. Hawkes, Osterley Park, Isleworth, sent two twin-flowered spikes of Cypripedium insigne.

G. P. Walker, Esq., Putney Heath (gr. Mr. McGregor), showed Brassolælia Mrs. G. P. Walker (L. flava × B. glauca), with yellow flowers.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent the handsome Sophrocattleya Wellesleyæ (S. grandiflora × C. labiata, with carmine-rose flowers, Cypripedium Cupid magnificum, a pretty white flower spotted with purple, and C. Princess Louise (Leeanum giganteum × Druryi), closely resembling C. Buchanianum.

Messrs. Charlesworth & Co., Haywards Heath, staged a magnificent group, which occupied one of the long stages, some sixty feet in length, and to which a Gold Medal was awarded. The genera were largely massed together, the centre being made up of Odontoglossums, chiefly hybrids, and O. crispum, with a fine series of white and coloured Lælia anceps on either side: then came masses of Cattleyas and Læliocattleyas, hybrid Calanthes, Lycaste Skinneri, and finally a batch of well-grown Vanda Amesiana at each end. In front of the Odontoglossums were some two dozen brilliant Odontiodas, and the Læliocattleyas contained a lot of the yellow L.-c. Ariel and the orange L.-c. Charlesworthii. We noted also a nice lot of the chaste Masdevallia tovarensis, several white Saccolabium Harrisonianum, a well-flowered S. bellinum, three Zygocolax Charlesworthii, Oncidioda Penelope (C. Nœtzliana × O. leucochilum), Cypripedium Aleimeda (insigne Harefield Hall var. × Alcibiades superbum), a very large and finely marked flower, and others too numerous to mention. The general effect was imposing.

Messrs. Sander & Sons, St. Albans, staged a very fine group, to which a

Silver Flora Medal was given. It contained some fine Cattleya Trianæ varieties, Lælia anceps, white and coloured, Læliocattleya Amarylloso, L.-c. Goldfinch, Brassocattleya Thorntoni, hybrid Calanthes, Odontoglossum Ophir (Edwardii × crispo-Harryanum), a chocolate-purple flower tipped with rose, O. Niobe (elegans × armainvillierense), and numerous others, with a fine Cypripede which is mentioned under Awards.

Messrs. Cypher & Sons, Cheltenham, received a Silver Flora Medal for a good group of Odontoglossums, hybrid Calanthes, Cypripedes, &c. We noted a fine Odontoglossum Andersonianum, the pretty little Epidendrum polybulbon, some good Lælia anceps Sanderiana, varieties of Cypripedium aureum and Actæus, C. Graceæ (niveum × Boxallii), a pretty form with three flowers, C. Curtmanii, C. Wm. Lloyd, C. Beeckmanii, &c., and a pretty hybrid Cattleya Mendelii × Læliocattleya Henry Greenwood, most resembling the former.

Mr. E. V. Low, Vale Bridge, Haywards Heath, received a Silver Flora Medal for a choice group, including the chaste Cattleya Percivaliana alba, Cypripedium villosum auriferum with eleven flowers, C. Beeckmanii, C. Madame Jules Hye, C. Actæus langleyense, C. Amboyna (Fairrieanum × Dulcinianum), a pretty hybrid with large white dorsal sepal, tinted with rose and reticulated with green, C. Ulysses, having greenish yellow dorsal sepal marked with chocolate-purple, and other good things.

Messrs. Stuart Low & Co., Enfield, received a Silver Flora Medal for a fine group, including some good Lælia anceps, white and coloured, Dendrobium Wardianum, Oncidium raniferum, Sophrocattleya Saxa, Odontoglossum blandum and some good hybrids, with Cypripedium Minos Youngii, the fine C. memoria Jerninghamiæ, C. Euryades splendens, and many other fine things.

Messrs. J. & A. A. McBean, Cooksbridge, also received a Silver Flora Medal for a choice group, including Lælia anceps Schrœderiana, L.a. Sanderiana, and several other beautiful forms of the species, Zygopetalum Perrenoudii, a fine Odontoglossum Crawshayanum, hybrid Calanthes, Epiphronitis Veitchii, a fine Odontoglossum triumphans × Hallii, Cattleya Enid, C. Octave Doin, the handsome Cypripedium Beryl, with very broad segments, and numerous other good Cypripedes.

Messrs. Mansell and Hatcher, Rawdon, Leeds, received a Silver Banksian Medal for a very interesting group, including the rare Arachnanthe Cathcartii, Eria stellata, some good Vanda Amesiana, Brassavola cordata, Cypripedium Thalia, Mrs. F. Wellesley, and others, with a few good Odontoglossums.

Mr. G. W. Miller, Clarkson Nurseries, Wisbech, also received a Silver Banksian Medal for a small group of Cypripedes, Lælia anceps, Calanthes, and various others.

Messrs. Heath & Son, Cheltenham, sent about two dozen Cypripediums, mostly familiar kinds.

M. Maurice Mertens, Mont-St.-Amand, Ghent, sent half-a-dozen handsomely blotched hybrid Odontoglossums, which were unnamed.

FIRST-CLASS CERTIFICATE.

CYPRIPEDIUM ELIZABETHÆ VAR. VOGEL (Hera Mariæ × Hitchinsiæ).—A very handsome hybrid, most like the former in shape. The dorsal sepal is very broad, white, blotched with claret-purple, and the petals and lip yellow, tinged and veined with purple. Exhibited by M. Firmin Lambeau, Brussels.

AWARDS OF MERIT.

CYPRIPEDIUM CHARLES SLADDEN (glaucophyllum × bellatulum).—A handsome hybrid, which is described and figured at page 41 of the present issue, under the name of Paphiopedilum Sladdenii. Exhibited by Messrs. Sander and Sons.

ODONTOGLOSSUM GODMANII (Edwardii × Rolfeæ).—A pretty hybrid, most like the former, having rose-purple flowers, with a bright yellow crest. Exhibited by F. Ducane Godman, Esq., South Lodge, Horsham.

ODONTOGLOSSUM HALSEYANUM (parentage unrecorded).—A fine hybrid, having pure white flowers, most like O. crispum in shape, and well blotched with rich purple. The plant bore a spike of a dozen large flowers. Exhibited by J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis).

ODONTOGLOSSUM ROSEFIELDIENSE (Harryanum × Lambeauianum).—A very pretty hybrid, of good shape and colour. The sepals and petals are broad, heavily blotched with reddish claret on a light ground, which is almost reduced to thin white lines. Exhibited by de Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables).

BOTANICAL CERTIFICATES.

BULBOPHYLLUM GALBINUM.—A large flowered species allied to B. Reinwardtii, but having two-flowered scapes. The sepals and petals are pale green, suffused and lined with dull purple, and the broad, hinged lip suffused with bright purple. Exhibited by Sir Jeremiah Colman, Bart.

PLOCOGLOTTIS JAVANICA.—A striking species, having broad green leaves, with large rounded dusky blotches, and erect spikes of small greenish flowers. Exhibited by Sir Jeremiah Colman, Bart.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING of this Society was held at the Coal Exchange, Manchester, on December 15th, 1910, when there was a rather small display of Orchids.

S. Gratrix, Esq., Whalley Range, Manchester (gr. Mr. Brown), exhibited

two new Cypripediums, viz., C. Waterloo and C. Victor Hugo, both plants receiving Awards of Merit.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), received an Award of Merit for Odontoglossum Major White, a new hybrid between O. amabile × O. crispum Hyeanum.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), exhibited Cypripedium Lord Minto and C. General Buller, Hey House var., the latter being voted an Award of Merit.

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), was awarded a Silver-gilt Medal for a fine group. Miltonia Moonbeam was awarded a First-class Certificate, and Odontoglossum ashlandense (Edwardii × Ossulstonii) an Award of Merit.

T. A. Hindley, Esq., Bradford, received an Award of Merit for Cypripedium Lord Ivor (Mrs. Wm. Mostyn × Leonidas).

A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish), exhibited some good Odontoglossums.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), received First-class Certificates for Odontoglossum Ajax, O. coloratum, and Cypripedium Alcibiades var Leeanum, and an Award of Merit was voted to Odontoglossum Sunray.

Other prominent exhibitors were Messrs. H. Arthur, Blackburn, Stanley & Co., Southgate, A. J. Keeling & Sons, Bradford, J. Robson, Altrincham, D. McLeod, Chorlton-cum-Hardy, and Charlesworth & Co., Haywards Heath.

At the meeting held on January 5th the Committee was present as follows: Messrs. E. Ashworth (Chairman), R. Ashworth, Thorp, Ward, Cowan, Holmes, Cypher, Keeling, Smith, Arthur, Parker, and P. Weathers (Hon. Sec.).

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), made a fine display of Orchids, for which a Silver-gilt Medal was awarded. Good forms of Odontoglossums, both species and hybrids, formed the major portion of the group. O. Red Monarch, closely approaching a form of O. crispum, and O. Blue Peter, a beautifully-coloured hybrid, received First-class Certificates, whilst O. Moonlight, apparently a hybrid of O. crispum var. Graireanum, received an Award of Merit.

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), staged a showy group of plants, including many well-grown specimens of Odontoglossum, with fine flower-spikes, and several good Cypripediums (Silver-gilt Medal).

H. J. Bromilow, Esq., Rainhill (gr. Mr. Morgan), showed a group of Cypripediums, for which a Silver Medal was awarded.

S. Gratrix, Esq., Whalley Range (gr. Mr. Brown), exhibited Cypripedium

Sunbeam, a well-shaped yellow and white flower, and C. Alport Regina, both of which received Awards of Merit.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), again staged an interesting exhibit, which included Odontoglossum Ceres var. magnificum (O. Rossii × Rolfeæ), one of the best forms of this pretty hybrid.

J. H. Craven, Esq., Keighley (gr. Mr. Corney), exhibited a few Orchids, of which Cypripedium villosum var. Mrs. Cary-Batten was the best example.

Messrs. Cypher & Sons, Cheltenham, were awarded a Silver-gilt Medal for a group consisting mainly of Cypripediums, including choice forms of C. Euryades, C. Leeanum in variety, and C. Beeckmanii. Some well-grown plants of Sophronitis grandiflora and Masdevallia Schrœderiana were also noticed.

Messrs. Sander & Sons, St. Albans, staged many interesting plants, including well-grown specimens of Odontioda hybrids, with fine arching and branched flower-spikes.

Mr. E. V. Low, Vale Bridge, Haywards Heath, showed a few plants, including a fine example of Cypripedium Gaston Bultel.

Messrs. Keeling & Sons, Westgate Hill, near Bradford, exhibited a small collection of miscellaneous Orchids.

Mr. W. Shackleton, Bradford, showed, amongst other plants, a distinct form of Cypripedium Actæus. P.W.

REVIEW OF BOOK.

Flora of Jamaica, containing descriptions of flowering plants known from the Island. By William Fawcett, B.Sc., F.L.S., and Alfred Barton Rendle, M.A., F.R.S. Vol. i. Orchidaceæ, 8vo., pp. 150, with 32 plates, and an Introduction. Published by order of the Trustees of the British Museum. Longman and Co., 39, Paternoster Row, E.C.

This is a very interesting descriptive account of the Orchids of Jamaica, largely based upon materials collected by Mr. Fawcett (and his assistants), during his 21 years' residence in the island as Director of Public Gardens and Plantations. The Orchids of Jamaica, it is remarked, are of special interest from the large number of endemic forms they include. The total number of genera is 61, one of which, Homalopetalum, is endemic. The total number of species is 194, of which 73 are confined to the island. There are also some endemic varieties. The most striking affinity of the Orchid flora is with that of Cuba, 82 species out of a total of 121 which are not endemic, occuring in that island. The affinities with other islands and with the adjacent continent are also traced, a few species common to Jamaica and Central America being regarded as evidence of a former land connection. Epidendrum is the largest genus, containing 31 Jamaican

species, followed by Pleurothallis with 27, and Lepanthes with 19, of which 17 are not known from elsewhere. This is an alpine genus, of which many new species have been found. As many as 28 of the genera contain only a single Jamaican representative. Two new genera, Neourbania and Harrisiella are described.

The arrangement adopted is that of the late Professor Pfitzer. There are keys to the genera and species, full descriptions, and a detailed list of Jamaican localities, with indications of the distribution of the species elsewhere.

The plates, mostly from drawings made by Miss Helen Wood, are largely analytical, and should be of great service to students of the Orchid flora of the island. The work is carried out with great thoroughness, but it has been overlooked that Dendrophylax funalis should be cited from Rolfe in *Gard. Chron.*, 1888, ii. p. 532.

Some very interesting details of the physical features of the island are given, which we must pass over. The work is intended as the first of a complete Flora of Jamaica, which we hope will be carried out with equal success.

ORCHIDS FROM BRIDGE HALL, BURY.

SEVERAL beautiful Orchids have been sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, by Mr. Rogers. Paphiopedilum Invincible (hirsutissimum × Mons. de Curte), is a flower of excellent shape, and great size and substance. The dorsal sepal is over $2\frac{3}{8}$ inches broad, green, densely dotted with purple-brown, and margined with white. The petals have an expanse of 6 inches, and are $1\frac{1}{2}$ inches broad near the apex, suffused with purple on the upper half, paler on the lower, the base being green, dotted with brown, and very undulate. There is some resemblance to P. Germinyanum, but the flower is altogether finer, and of great substance. Another very fine hybrid is from P. Mrs. Wm. Mostyn × Euryades, New Hall Hey var., and has broad villosum-like petals, and the lower half of the dorsal sepal crowded with large very dark purple blotches on a green ground, and the very broad margin white. A seedling from P. Leeanum × Mons. de Curte will be a form of P. Lasellei, but has very small dots on the dorsal sepal. P. Lathamianum × Euryades, New Hall var., will be a form of P. Emile, and is light yellowish green with very few dots on the petals and base of the dorsal sepal, the upper three-fourths being white. P. Lawrenceanum × niveum is a form of P. Aphrodite, and has a three-flowered inflorescence with more of the Lawrenceanum colour than usual. P. Curtisii superbum × bellatulum album is a good typical P. Chapmanii. The other two are stray seedlings, one richly-coloured flower being clearly from Charlesworthii and one of the tesselated-leaved group, the other most

like Leeanum, with very closely dotted petals. All but the first were raised in the collection. There is also a seven-flowered raceme of the pretty Odontoglossum crispum with sepal-like petals which we have previously noted, and a good white form with a few purple spots on each segment. A seedling from *Zygopetalum* Mackayi × rostratum, as Mr. Rogers remarks, shows no trace of the latter in the flowers. A larger form of *Z.* Mackayi is sent for comparison. We cannot suggest any reason for the anomaly, but *Z.* Mackayi has a reputation for its erratic behaviour.

VUYLSTEKEARA INSIGNIS.

SOME months ago a striking hybrid raised by M. Ch. Vuylsteke from Miltonia vexillaria ♀ and Odontioda Vulystekeæ ♂ flowered in his establishment at Loochristi, Ghent, of which a short note and a coloured figure of a single flower appeared (*Rev. Hort. Belge*, 1910, p. 150, with fig.). As three genera were involved, the question of a suitable name has been in abeyance, but now that the Report of the Committee appointed to deal with the question of the nomenclature of multigeneric hybrids has appeared (see pp. 7, 8 of our last issue), we may proceed to apply the Committee's recommendations to the present subject. One clause reads: "Future generic hybrids (combining three or more genera) should be given a purely conventional name consisting of the name of some person eminent as a student or grower of Orchids, terminated by the suffix 'ara.'" The generic name now proposed for the present plant is, we think, highly appropriate, for not only the hybrid but also the pollen parent are the creations of M. Vuylsteke, who has further raised a host of beautiful hybrid Odontoglossums which now decorate our gardens. The specific name is also appropriate, and in conformity with the recommendations of the Committee, that it "should be preferably in the Latin form."

M. Vuylsteke has certainly raised a striking hybrid, which, from its composition, should develop into a handsome thing when the plant becomes strong. The flower is fairly intermediate in character, with the expanded form of the seed-bearer, and a four-lobed lip. It measures just under two inches from tip to tip of the petals, and the colour may be described as carmine-rose, with the lip slightly paler, especially towards the base, and the crest bright yellow. Nothing is stated as to the habit of the plant. We hope to be able to examine it on some future occasion. Vuylstekeara will, according to the rule cited, include all the combinations between the three genera Cochlioda, Miltonia, and Odontoglossum, and thus the name must also be applied to any future hybrids between Miltonioda and Odontoglossum, and between Odontonia and Cochlioda, as well as to the two above mentioned.

R. A. R.

ORCHIDS IN SEASON.

THREE pretty Odontoglossums are sent by Messrs. Charlesworth & Co., Haywards Heath. O. Cravenianum is a charming hybrid from O. cirrhosum and O. ramosissimum, in which the very undulate character of the latter is well retained. The flowers are white, copiously blotched with purple. It was figured at page 113 of our last volume. O. Sabina was derived from O. Edwardii × O. luteopurpureum, and is comparable with O. Thompsonianum in general character, but the colour is very deep brown-purple, with lilac-coloured tips to the segments, and a yellow rather more spiny crest. The last is a very distinct form of the variable O. Ceres (Rolfeæ × Rossii), having a light yellow ground-colour, with many dark brown spots on the sepals and on the basal half of the petals, while the lip is white, suffused with rose, and with a few brown spots at the base.

Several interesting Orchids are sent from the collection of John Leemann, Esq., Heaton Mersey, by Mr. S. Smith, including the fine Paphiopedilum Minos Youngii, P. Calypso Frœbelii, having the dorsal sepal much suffused with purple and a dark median band, P. aureum Hero, a pretty yellow and white form. P. a. Œdippe, showing much of the Spicerianum character, but with much purple suffusion on the dorsal sepal. P. Harri-Leeanum, Park Lodge var., a good bold form, P. Thompsoni, most like a fine Lathamianum, P. insigne Leo, a yellow form with large indistinct blotches on the dorsal sepal, P. i. Heaton var., a large well-blotched form, and a form of P. Atys (venustum × Hookeræ). The flowers are finely developed, and illustrate well the utility of the group for winter flowering.

A hybrid from Cattleya labiata × Læliocattleya Adolphus is sent from the collection of W. R. St. Quintin, Esq., Scampston Hall, Rillington, by Mr. F. C. Puddle. The sepals and petals are buff yellow with a little purple suffusion, and the lip nearly entire, undulate, with a rich crimson-purple front lobe and a yellow throat. The spike bears two flowers at present, and is evidently undeveloped. A Paphiopedilum of unknown parentage is also sent, which has most of the characters of a good P. insigne.

LATINISING PERSONAL NAMES.—The rule for latinising modern personal names adopted by the International Botanical Congress held at Vienna, in 1905, reads as follows:—

XI. When a specific name is taken from the name of a man, it is formed in the following way:—

(*a*) When the name ends in a vowel, the letter *i* is added (thus, *Glaziou* from Glaziou, *Bureaui* from Bureau), except when the name ends in *a*, when *e* is added (thus, *Balansæ* from Balansa).

(*b*) When the name ends in a consonant, the letters *ii* are added (thus, *Magnusii* from Magnus, *Ramondii* from Ramond), except when the word ends in *er*, when *i* is added (example, *Kerneri* from Kerner).

This is an attempt to secure uniformity of practice which we think should be adopted, for it agrees in the main with the old rules of euphony which have been previously discussed (*O.R.*, v. p. 300-301; viii. pp. 235-238). The diversity of practice seen in such names as Vanda Bensonii and Thunia Bensoniæ, Odontoglossum Lehmanni and Phaius Mannii are rather berwildering. We would point out, however, that *y* final should be treated as a vowel thus, *Lindleyi*.

These rules only apply to modern personal names, for which no Latin rule exists. But they follow pretty closely the genius of Latin construction, and the two exceptions pointed out are in conformity with Latin precedent. The original spelling of the name commemorated is to remain unaltered except as to the suffix.

VANDA CŒRULEA VAR. WRIGLEYI.

A DISTINCT and beautiful Vanda has appeared in the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, which Mr. Rogers states flowered among some V. cœrulea imported by Messrs. Mansell & Hatcher, Rawdon, Leeds, in the spring of last year, and is identical with V. cœrulea in habit. The flower is rather smaller than in the species named, the sepals and petals rather narrower, pure white, the lip rose pink, and the spur proportionately rather long and slender. It is so different from the ordinary V. cœrulea that one at first regards it as distinct, possibly some natural hybrid, yet it is not at all clear what combination would produce it. There is no resemblance to V. Moorei in habit, nor yet in the shape of the lip and spur, and without these a certain resemblance in colour seems of little importance. We wrote to Messrs. Mansell & Hatcher as to what other species came in the same importation, and they reply: "You can take it as certain that Vanda cœrulea, Kimballiana, pumila, Amesiana, Bensonii, cœrulescens, Moorei, Aërides crassifolium, and I'Ansonii all occur within a day's journey of the collector. V. Bensonii certainly grows among the lot, and sometimes comes mixed with V. cœrulea, but they are easily picked out. If the plant you received came from us as V. cœrulea you can depend it resembles it very closely." There is evidently something more to be found out about these Burmese Vandas, which have yielded two or three other anomalous forms. The occurrence of V. Bensonii among V. cœrulea explains the origin of the natural hybrid V. Charlesworthii. Perhaps it will be best to regard the present form provisionally as an anomalous variety of V. cœrulea, but we wish our hybridists would cross the species with V. Kimballiana and V. Bensonii, and let us know the result.

R. A. R.

ORCHID NOTES AND NEWS.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during February, on the 14th and 28th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on February 2nd and 16th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 4 p.m. The following meeting is on March 2nd.

In connection with the Annual Show of the Royal Agricultural Society of England, to be held at Norwich from June 27th to 30th next, under the patronage of His Majesty the King, there will be a Horticultural Exhibition. We note in the Schedule of Prizes :—

CLASS 2.—Collection of Orchids arranged for effect on a stage 100 square feet. Palms, ferns, or other suitable foliage plants may be used to give effect to the exhibits.

First Prize, Gold Medal and £10.
Second Prize „ „ £5.
Third Prize „ „ £3.

Gold and Silver Medals will also be awarded to exhibits of special excellence.

From the R.H.S. Book of Arrangements just received we are glad to note that the Society's Spring Flower Show will be held, as usual, in the Inner Temple Gardens, Thames Embankment, on Tuesday, Wednesday, and Thursday, May 23rd, 24th, and 25th next. The Summer Show will be held at Olympia, Kensington (not Holland House), on Tuesday, Wednesday, and Thursday, July 4th, 5th, and 6th. Particulars and Schedules can be obtained from the Secretary.

The *Gentlemen's Journal* of December 17th last contains a finely-illustrated article, by Mr. Percy A. Ongley, on Orchid Cultivation at the establishment of Messrs. Charlesworth & Co., Haywards Heath. It contains portraits of Mr. Joseph Charlesworth (Principal), Mr. Henry Harwood Smith (Manager), views in the houses devoted to the culture of Phalænopsis Schilleriana, P. amabilis Rimestadiana, Odontoglossum hybrids, groups of Vanda cœrulea, Cattleyas and Lælias, the interior of a packing house, one of the Corridors, the stables and boiler houses, &c., also a group of Cups and Medals won by the firm, and of the Charlesworth Cup, presented to the Manchester and North of England Society.

We are requested to notify that the late firm of Messrs. Stanley & Co

Southgate, will in future be known as Messrs. Hassall & Co., Southgate, London, N. Mr. John Cowan, jun., has taken over the management from January 23rd, 1911. We wish the new firm success.

ORCHID PORTRAITS.

ANGRÆCUM PELLUCIDUM.—*Gard. Chron.*, 1911, i. p. 18, fig. 13.

BRASSOCATTLEYA DIGBYANO-MOSSIÆ, WESTONBIRT VAR.—*Gard. Chron.*, 1911, i. p. 4, with coloured plate.

BULBOPHYLLUM CYLINDRACEUM.—*Gard. Chron.*, 1911, i. p. 3, fig. 1.

CYPRIPEDIUM AUREUM VIRGINALE.—*Journ. Hort.*, 1911, i. p. 71, with fig.

CYPRIPEDIUM CHARLES SLADDEN.—*Gard. Chron.*, 1911, i. p. 50, fig. 25.

CYPRIPEDIUM GASTON BULTEL.—*Gard. Mag.*, 1911, pp. 30, 31, with fig.

CYPRIPEDIUM INSIGNE VARS. CHANTINII, HAREFIELD HALL, and SANDERÆ.—*Garden*, 1911, i. p. 18, with fig.

CYPRIPEDIUM MAY.—*Journ. Hort.*, 1911., i. p. 27, with fig.

CYPRIPEDIUM W. J. MILLS.—*Gard. Mag.*, 1911, p. 6, with fig.; *Journ. Hort.*, 1911, i. p. 49, with fig.

DENDROBIUM DARTOISIANUM, De Wildem.—*Bot. Mag.*, t. 7352.

DENDROBIUM GOLDIEI.—*Gard. Chron.*, 1911, i. p. 36, fig. 21.

LÆLIA ANCEPS VIRGINALIS.—*Journ. Hort.*, 1911, i. p. 3, with fig.

LÆLIOCATTLEYA CRANSTOUNIÆ, WESTONBIRT VAR.—*Gard. Mag.*, 1911, p. 20, with fig.; *Gard. Chron.*, 1911, i. pp. 18, 27, fig. 17.

MILTONIA WARSCEWICZII LEUCOCHILA.—*Gard. Mag.*, 1911, p. 25, with fig.

ODONTOGLOSSUM CERES MAGNIFICUM.—*Gard Chron.*, 1911, i. p. 12, fig. 12.

ODONTOGLOSSUM HALSEYANUM.—*Gard. Mag.*, 1911, pp. 59, 60, with fig.

SOPHRONITIS GRANDIFLORA.—*Journ. Hort.*, 1911, i. p. 13, with fig.

ANSWERS TO CORRESPONDENTS.

[Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work].*

E.R.—The question is fully dealt with in the present issue.

J.S.F.—Oncidium divaricatum, Lindl. Letter follows.

Photographs received, with thanks.—J.G., C.M., J.B.

Received, with thanks. A.C., P.W., C.M., A.H., J.G. Next month.

H.G.A.—Many thanks. We will attend to the matter.

We have received from the Agricultural & Horticultural Association, 92, Long Acre, London, W.C., a copy of *One and All Gardening for* 1911, which is, as usual, full of interesting matter and illustrations, but we do not see anything relating to Orchids.

We have received from the Hardy Patent Pick Co., Ltd., Sheffield, samples of the excellent garden tools of which the firm makes a speciality, and which are remarkable for lightness and strength, and in every way well adapted to the purpose for which they are intended.

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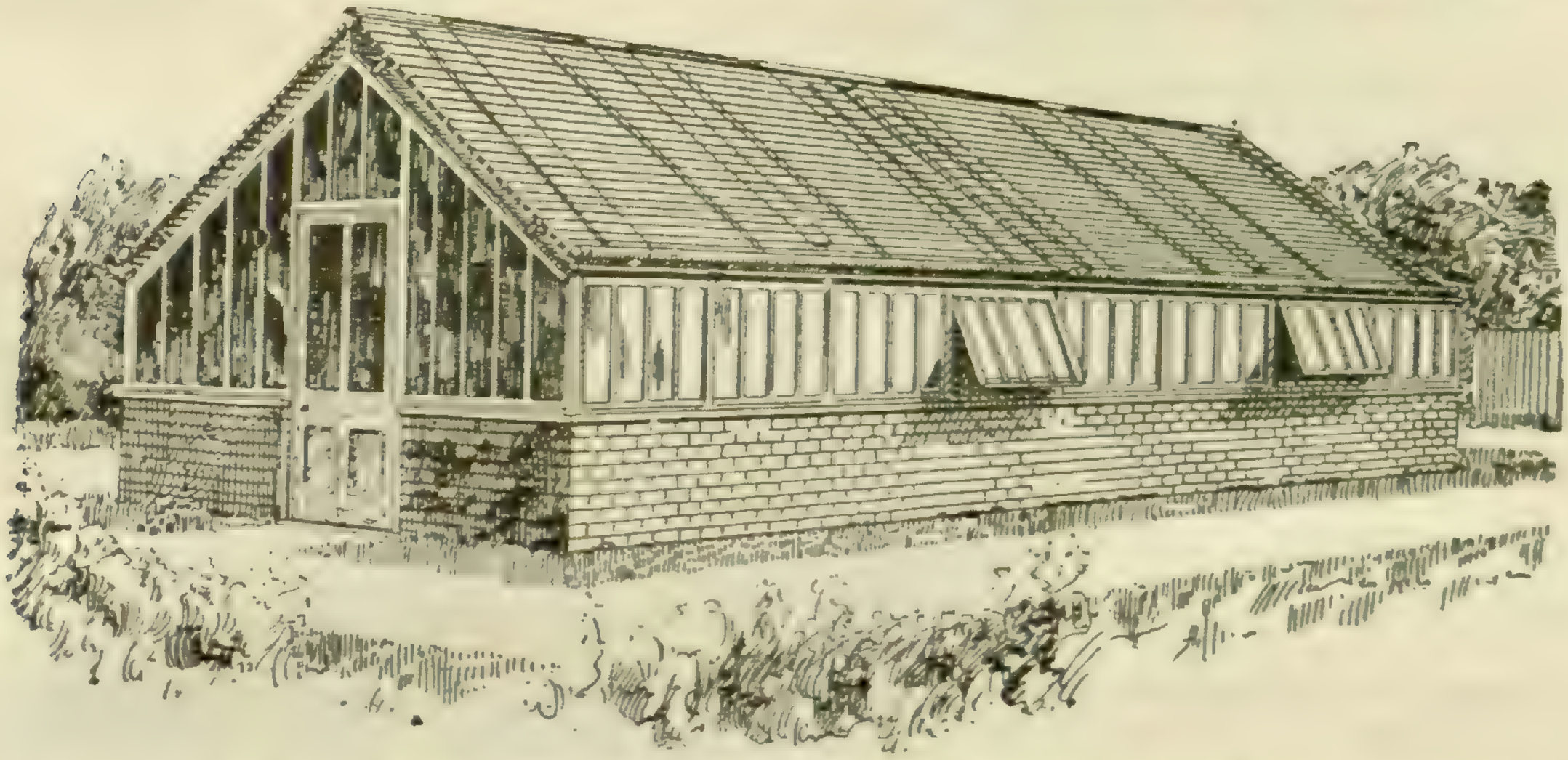

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VOL. XIX., No. 219. THE MARCH, 1911.

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An Illustrated Monthly Journal.

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THE ORCHID REVIEW.

VOL. XIX.] *MARCH*, 1911. [No. 219.

OUR NOTE BOOK.

NOT long ago a correspondent wrote deploring the modern craze for hybrids, because it led to neglect of the species. There is something in the remark, but can we wonder that hybrids are popular when we see the marvellous advances that are being made? Hybridisation and selection are working wonders in our collections. Improvements in shape and colour are apparent on every hand, while constitution and floriferousness seem to be among the predominant characteristics of many hybrids. There is also the fascination of the work, and the perennial charm of novelty, with the possibility of raising something striking. It is little wonder that hybrids are becoming increasingly popular.

The appearance of another instalment of the *Orchid Stud-Book*, devoted to the genus Odontioda, illustrates very well the possibilities of the work of hybridisation. Less than seven years ago what was not inaptly termed a 'scarlet Odontoglossum" was exhibited by M. Ch. Vuylsteke at the Temple Show, under the name of Odontioda Vuylstekeæ, and not unnaturally created a sensation. At once a new field of possibilities was opened, and hybridists were not slow in availing themselves of it. But the work had already begun, for just three years later Messrs. Charlesworth exhibited their first seedling from the same cross, and by this time they had flowered three others. They were O. heatonensis (C. sanguinea × O. cirrhosum), in March, 1906, O. Bohnhoffiæ (C. vulcanica × O. cirrhosum), in the September following, and O. Bradshawiæ (C. Nœtzliana × O. crispum), in January, 1907. The number has since increased to nearly thirty, and Odontioda now occupies a very prominent place in our collections. The future no one can foretell, but last year the secondary hybrids of O. Vuylstekeæ began to flower, and now number four, all of them raised by M. Vuylsteke.

One of these is a hybrid with Miltonia vexillaria, thus introducing a further development, to which the new rule of the R.H.S. for the nomenclature of multigeneric hybrids was applied, and the plant is now known as Vuylstekeara insignis. Its appearance opens up almost untold possibilities, and further developments will be awaited with interest.

The nomenclature of Orchids seems to be a subject of perennial interest, for several communications on the subject have recently reached us. One of them is an objection to a change of name, on what may be termed abstract principles. "A name once given should not be changed, for the law of priority is against it." But the law of priority is only one of several rules which must be taken together, and it only protects names which are given in accordance with the said rules. It only applies to *correct* names. No particular name was mentioned, but, curiously enough, the same post brought us a letter of thanks for correcting a name which had been applied in incorrect form—not from a mere outsider, but from the actual owner of the name. This, however, is a digression, the question is whether such an alteration is permissible, and the question must be answered in the affirmative, for the said law distinctly permits the change of *incorrect* names. A law which failed to do this would defeat its own object, which is to secure an orderly system of nomenclature. The simplest way to avoid unnecessary change of names is to apply the rules in the first place.

The rule for naming primary hybrids is perfectly clear, and easily applied, but it is admitted that its extension to secondary hybrids and those of more complex parentage is not satisfactory, because of the marvellous amount of reversion that takes place, even among seedlings from the same seed-pod. It is this that justifies the rule of treating them as florists' flowers. If they showed the same amount of uniformity as primary ones there would be no difficulty of bringing them all under the same rule. And even among secondary hybrids there are many cases where the convenience of treating all the seedlings from the same capsule as forms of one is far greater than any disadvantages it may possess. Our Note Book contains several striking examples of this, but they must be deferred for the present.

One correspondent frankly proposes that *all* hybrids should be named as florists' flowers, in order to distinguish them from species. But does he always know which are hybrids and which species? We do not. Many hybrids occur wild, and there are plants that have been described as species whose origin is at least problematical. Perhaps he would limit the proposal to hybrids of artificial origin, but that would not get us out of the difficulty, for it would, presumably, leave the mass of existing names untouched. He would never propose re-naming them on popular lines. And, unfortunately, in the case of Orchids, the naming of hybrids as florists' flowers does not meet the case. A florist, let us say, raises a large batch of seedlings. One of them is an improvement on existing kinds, and is named and propagated until a stock is acquired for distribution. The remainder are thrown away. Those distributed are all subdivisions of one

original piece, and, therefore, all alike. Orchids cannot be dealt with like this on account of their slow rate of growth.

The custom as regards Orchids can be illustrated by a very graphic example. A batch of a certain secondary hybrid was raised, and when the seedlings began to flower, one of them proved to be a decided improvement. A florists' name—or sequence of names—was given, which we will call "X," and the plant was exhibited, its quality being recognised by the award of a Certificate. Two years later a batch of it was exhibited under the same name, but they were not all alike, though the exhibitor explained that all were seedlings out of the same seed-pod. One was finer than all the others, and we asked if this was the original certificated plant. "No," replied the exhibitor, indicating another plant, "this is the original one, but the new one is better." This did not flower until after the other was named, or it would have received the honour, and if a stock were being propagated for distribution it is the new one that would be selected.

Here is the kernel of the whole difficulty, the existence of which is the cause of endless heart-burnings, and which we are desirous of remedying. But the mere naming of hybrids as florists' flowers will not remedy it. We want a specific name—not a sequence of them—to which suitable varietal names can afterwards be added as necessary, and many florists' names have this quality. The principle "one hybrid, one name" should be adopted. Perhaps a little consideration of the necessities of the case, and a little co-operation, may help in providing a solution of the difficulty.

BIFRENARIA MELANOPODA.

A CURIOUS little Orchid has been sent to Kew for determination by Mr. James O'Brien, Harrow-on-the-Hill, and its examination has led to some interesting discoveries. It is a miniature Bifrenaria, a genus containing several imperfectly-known species. One of these is B. clavigera, described by Reichenbach over forty years ago (*Hamb. Gartenz.*, 1865, p. 296), from materials sent to him by Mr. John Day, and said to have been from a Brazilian importation by Mr. S. Low. A coloured drawing was made by Mr. Day in April, 1867 (*Orch. Draw.*, v. t. 13), which agrees well with the one sent by Mr. O'Brien. The plant described and figured by Kränzlin, in 1896, as Stenocoryne Wendlandiana (*Xen. Orch.*, iii. p. 155, t. 289, fig. 1), evidently represents a form of the same species. This flowered with Herr Wendland at Herrenhausen, and is also said to have been imported from Brazil. It was transferred to Bifrenaria by Cogniaux, as B. Wendlandiana (*Mart. Fl. Bras.*, iii. pt. 5, p. 489), and is distinguished from other Brazilian species by having solitary flowers, while B. clavigera is placed at

the end of the genus as known only from description, together with another imperfectly-known Brazilian species, namely, B. melanopoda, Klotzsch. The latter was described, in 1855 (*Otto & Dietr. Allg. Gartenz.*, xxxiii. p. 105), from a specimen which flowered in the establishment of Herr Allardt, at Berlin. The three agree well in their small stature, broadly flabellate lip, neatly fringed all round the front margin, and in having numerous radiating rose-purple veins on a white ground. Reichenbach (*Walp. Ann.*, vi. p. 549), reduced B. melanopoda to B. racemosa, Lindl., a view clearly erroneous, that species having a totally different lip. B. melanopoda is a miniature species, with a tuft of angular pseudobulbs, ½in. to ¾in. high: rather narrow leaves, some 2in. to 4in. high; short slender scapes, bearing one or very few flowers, with light green sepals and petals, about ½in. long, and sometimes tinged with brown: and the lip as already described, with an oblong crest and a short obtuse spur. R.A.R.

THE EVOLUTION OF THE ORCHIDACEÆ.

(*Continued from vol. xviii. p.* 325.)

THE subtribe Maxillarieæ is placed next to Stanhopieæ by Bentham, who remarks: "The genera here included are all American, and epiphytal, and have the mentum of Cyrtopodieæ; but the leaves are coriaceous, fleshy, or herbaceous, without prominent parallel ribs, and the peduncles or scapes are almost always single-flowered. The rhizome either bears pseudobulbs with one or two leaves, or is produced into ascending or erect stems, with closely distichous, often equitant leaf-sheaths, and more or less developed laminæ. Of the nine genera we have referred to it, two or three of the smaller are as yet rather doubtful in their affinities; generally they connect in some measure the Cyrtopodieæ and the Stanhopieæ with the Oncidieæ."

The doubtful genera were probably Stenia and Schlimmia, which we have already excluded, and Clowesia, which is simply a species of Catasetum. This leaves Maxillaria, Camaridium, Ornithidium, Dichæa, Scuticaria, and Mormolyce, to which must be added Trigonidium, placed by Bentham in the subtribe Oncidieæ, and Chrysocycnis, in Stanhopieæ, where they are clearly out of place.

Maxillaria is the principal genus of the group, and contains about 100 species, varying much in habit. The peduncles are axillary and single-flowered, the sepals and petals narrow, and the lip articulated to the short foot of the column, and mobile. Some of the species are caulescent, when they much resemble Camaridium, a nearly allied genus of some 20 species, some of which are without pseudobulbs. Ornithidium is another allied genus, of some 20 species, having much smaller flowers, and the foot of the column very short. All three genera are widely diffused in Tropical America. Trigonidium is much like Maxillaria in habit, but is markedly different in

its reflexed sepals and much smaller petals, lip and column. It ranges from Brazil to Central America, and contains about 10 species. Mormolyce is nearly allied, and contains a single Mexican species. Chrysocycnis was described by Reichenbach as near Trigonidium, but it differs from both it and Maxillaria in floral structure. It contains two species, natives of New Granada. Scuticaria has long terete leaves, and large flowers, somewhat resembling those of Maxillaria in structure, but having a much broader lip. It is placed in this affinity, but is quite anomalous in habit. There are two species, natives of Guiana and Brazil.

There remains the somewhat anomalous genus Dichæa, which is much like the non-pseudobulbous Camaridiums in habit, next to which it is placed by Bentham. The genus is widely diffused in Tropical America, and contains about 20 species. It has erect stems, usually short leaves, and axillary flowers. Pfitzer, whose classification is largely formed upon habit, separates Dichæa as a distinct group, Dichæinæ. It apparently forms a transition to the Pachyphyllum group, comprising the genera Centropetalum, Nasonia and Pachyphyllum, and some dozen or more Andine species, none of which we believe are in cultivation. Bentham places them at the beginning of Sarcantheæ, together with Lockhartia, where all are rather out of place, for the latter is much like Oncidieæ in floral structure.

There now remain the large and very characteristic subtribes Oncidieæ and Sarcantheæ, with the anomalous group Notylieæ, which must stand over for future papers.

R. A. ROLFE.

(To be continued.)

ORCHID COLLECTING EXTRAORDINARY.—In an interesting letter from Mr. E. W. Davy, Zomba, Nyasaland, published in the current issue of the *Journal of the Kew Guild*, we note the following:—"On my last tour I secured one specimen, new to this portion of Nyasaland, if not to science; and thereby hangs an adventure (one *must* have some novel experience in Tropical Africa). I found a very tall tree, devoid of branches. My boys could not climb it, nor could I. Cut it down, says the ruthless collector; alas, I had no axe, I was in a hurry, and the specimen was rare. However, a .303 rifle did the trick. A well-directed shot, and an inflorescence fell to the ground; another shot, and a stem bearing five pound fruits was severed; a third brought down a leaf, and I went on my way rejoicing. I must take immediate steps to patent and copyright the idea in all countries, for it opens out a new world to the writers of popular magazine articles; *e.g.*, 'Mr. McMackmac, Orchid collector to Sir Caoutchouc Gossypium, instead of risking his life in fording unfordable rivers, penetrating impenetrable forests, and crossing uncrossable swamps, makes his residence in some salubricus hill-station, from which, with the aid of most powerful

binoculars, he surveys the minute recesses of the distant forests, and whenever, a *Cattleya cannot-be-got-ata* or *Peristeria peculiarissima* is observed, he directs his well trained minions to the spot, and with a well directed shot from his high velocity long range rifle, he drops the rare plant, with its nutrient substratum, into the teak basket held below by his preaboriginal assistants.'"

NOTE ON THE HYBRIDISATION OF CHONDRORHYNCHA CHESTERTONI AND ZYGOPETALUM MACKAYI.

MESSRS. SANDER & SONS, St. Albans, have made crosses between the above very distinct species, the results of which are of exceptional interest. Both plants are regarded as pure species, though the Chondrorhyncha appears not to have been raised from seed in cultivation. Zygopetalum Mackayi is well known as affording several examples of monolepsis, its offspring, when pollinated by Odontoglossum spp., Lycaste sp., &c., having proved to be pure *Z.* Mackayi. When pollinated by Chondrorhyncha Chestertoni, however, the offspring were found to be of two distinct types. One of these has been named Chondropetalum Fletcheri, and has been figured and described (*O. R.*, xvi. p. 56, fig. 8). The Editor remarks: "The plant has unquestionably the habit of *Z.* Mackayi. . . The sepals and petals are green, with more or less confluent brown blotches, while the lip is cream-white except for a tinge of lilac in front of the crest." Thus the colour is distinct from that of *Z.* Mackayi, yet it does not approach that of Chondrorhyncha Chestertoni. It may also be pointed out that the pseudobulb is narrower and more elongated and angled than the short rotund pseudobulb of *Z.* Mackayi (Chondrorhyncha is without pseudobulbs). The second type produced in F1 is indistinguishable from pure *Z.* Mackayi, as in previous cases of monolepsis. The two types are produced in about equal proportions.

Messrs. Sander also made the reciprocal cross, viz., Chondrorhyncha Chestertoni ♀ × Zygopetalum Mackayi ♂; with the remarkable result that the offspring, as in the previous cross, were a mixture of Chondropetalum Fletcheri and *Z.* Mackayi in about equal numbers. Thus the results of the cross are identical in whichever direction it is made; both being in part monoleptic.

The above extraordinary statements are made upon the authority of Messrs. Sander & Sons, and of Mr. Gott, their hybridist. The chance of error in their experienced hands is but small, and Mr. Gott considers that their "system of sowing Orchid seeds does not admit the possibility of any mistake occurring," but it must be recognised, however improbable such an event may be, that the accidental sowing of seed from the first cross (*Z.* Mackayi as seed-parent) instead of from the reciprocal cross would account for the anomalous results considered to be given by the latter.

Further, Mr. C. C. Hurst, to whom I am much indebted for valuable criticism, considers that Chondropetalum Fletcheri is within the range of variability of Zygopetalum Mackayi produced by monolepsis.

For these reasons, discussion of the facts here recorded must clearly be postponed until they have been confirmed, or until corroborated by the results of other experiments. But it may be of interest to recall, as a partial parallel to the result of the cross *Z.* Mackayi ♀ × C. Chestertoni ♂, that Miss Saunders found that the offspring from pollinating certain glabrous Stocks by hairy were partly amphi-, partly monoleptic (Rep. I. Roy. Soc. Evol. Com. (1902), p. 39), and that she and Mr. Bateson consider that heterozygosis was out of the question; while Millardet's "false hybrids" of pure paternal type (*Mém. Soc. Sci. Bordeaux*, sér. 4, IV. (1894), p. 347) may be quoted in connection with the reciprocal cross, C. Chestertoni ♀ × *Z.* Mackayi ♂.

Cambridge. R. H. COMPTON.

NOTES ON LÆLIA RUBESCENS.

THIS very pretty Orchid seems to be much neglected, if not quite overlooked, by amateurs or others growing a general collection. Why this is so I cannot imagine, as it is really a good thing, and very easy to grow: even the smallest pseudobulbs are almost sure to flower if at all well ripened.

During the spring of 1909, while travelling through the Pacific coast districts of Guatemala and the Mexican State of Chiapas, I found it in great abundance, often in immense masses on the wide-spreading branches of "Bombax Ceiba," enduring the torrid heat of the dry spring months when the Ceiba for some time is quite defoliated. The form found in these regions is mostly white with a maroon-coloured blotch in the throat. Sometimes the sepals and petals are faintly tinged with lavender or very pale mauve. The zone of distribution appeared to be between sea level and 1,000 feet, and no plants were observed much above this elevation.

Recently, while in the Mexican State of Campeche, many hundreds of miles from the above-mentioned habitat, and quite upon the other side of the lofty Cordilleras, I most unexpectedly came upon Lælia rubescens in countless numbers, in full flower, growing upon the low branches of the logwood trees (Hæmatoxylon Campechianum). These trees are almost entirely confined to swampy areas, and comparatively few other trees are found growing with them. These swamps are covered with water for about six months of the year, from June to November—the vegetative period of L. rubescens—but become quite dry and fiercely hot during the dry spring months of the year, from March to June. The plants get but little shade, and are often quite bronzy or ruddy from the rays of the tropical sun.

From the foregoing it will be seen that L. rubescens requires warmer treatment than that accorded to L. anceps—I should say quite ten degrees—otherwise culture as to light, pure air, and a long resting spell, with little or no compost about the roots, is the same. Of the many plants observed in flower all were of a uniform rose-pink, and slightly different in outline from the Pacific coast type: the maroon blotch in the throat was, however, present.

My several dozens of both forms of L. rubescens are here grown on pieces of Spanish cedar bark or truncheons of the Calabash tree, without any compost whatever, and hung up under the slightest shade. They flower here regularly every year, a month later than L. anceps—that is to say,

Fig. 6. LÆLIA RUBESCENS.

during January, L. anceps flowering during October, November, and December.

The plants in masses, with five or more flower stems, are very effective, and with their delicate and airy grace associate most charmingly with the large and more formal flowers of the winter-blooming Cattleyas.

Buena Ventura,
Vera Cruz, Mexico. J. C. HARVEY.

The accompanying figure will serve excellently well to illustrate Mr. Harvey's remarks, though it does not represent a Mexican example. This plant was grown in the collection of J. J. Neale, Esq., of Penarth, by Mr. H. Haddon, and when photographed bore eight spikes and thirty-six flowers. The history of the species was given at pp. 41, 42, of our fourteenth volume.—ED.]

PAPHIOPEDILUM MAY.

THIS is a very distinct hybrid from Paphiopedilum Euryades maculatum ♀ and P. glaucophyllum ♂, whose history was given at page 45, and now, through the kindness of the *Journal of Horticulture*, we are able to give its portrait, which is reproduced from a photograph by Mr. J. Gregory, Croydon. It forms a striking contrast with P. Sladdenii, another glaucophyllum hybrid, which is figured at page 41, and in the present case the shape and twisted petals of the glaucophyllum parent have been very well retained. On the whole the characters of this parent are the most obvious, though the shape and colour have been considerably modified. The dorsal

Fig. 7. PAPHIOPEDILUM MAY.

sepal is flat, and white towards the apex, suffused with rose, and slightly veined, as in P. glaucophyllum; the petals twisted with several brownish pin-like dots on a yellow ground, and the pouch is light rose. Only a single seedling was raised by Messrs. Veitch, which is now in the Kew collection, and which promises to develop into a fine thing when the plant becomes strong. This makes the third hybrid from P. glaucophyllum that has flowered, the first being the one described at pp. 250, 264, of our last volume, whose origin is somewhat doubtful, though P. Curtisii is supposed to have been the second parent.

THE ORCHID STUD BOOK.

(*Continued from page* 36).

OUR first instalment of the continuation of the *Orchid Stud-Book* contained the numerous additions to the hybrid genus Odontioda. The present one deals with the remaining genera of the group, with the exception of Odontoglossum. We invite additional information and criticism, and thank our correspondents for some details about Odontioda, which, however, are held over until next month, as one or two enquiries are not yet complete.

MILTONIA (continued from *Orchid Stud-Book*, p. 280).

SECONDARY HYBRID.

M. St. ANDRE (Bleuana × Roezlii ♀), *O.R.*, 1908, 198.—Sander. F.C., R.H.S., June, 1908 (Schröder).

MILTONIODA.

A genus established to contain the hybrids between Cochlioda and Miltonia.

PRIMARY HYBRIDS.

M. AJAX (C. Nœtzliana ♀ × M. Schrœderiana), *O.R.*, 1910, 219, 267. —Charlesworth, 1909. M. (unnamed), *O.R.*, 1909, 368.

M. HARWOODII (C. Nœtzliana × M. vexillaria ♀), *O.R.*, 1909, 233, 238, f. 18; 1910, 267, 312; *J.H.*, 1909, ii. 51, f.—Charlesworth. Certificate of Appreciation, R.H.S., July, 1909.

M. LINDENII (C. vulcanica × M. Phalænopsis), *O.R.*, 1909, 57.—Linden.

There is a slight doubt about the parentage, and we should like to see the cross repeated.

ODONTONIA (continued from *Orchid Stud-Book*, p. 293).

SECONDARY HYBRIDS.

O. LAMBEAUIANA (M. Warscewiczii × O. Lambeauianum), *O.R.*, 1910, 210.—Peeters.

O. VUYLSTEKEI (M. vexillaria ♀ × O. amabile), *O.R.*, 1910, 209.—Vuylsteke.

Miltoglossum Vuylstekei, *Trib. Hort.*, 1910, 199, t. 204.

ONCIDIODA.

PRIMARY HYBRIDS.

A genus established to contain the hybrids between Cochlioda and Oncidium.

O. CHARLESWORTHII (C. Nœtzliana ♀ × O. incurvum), *O.R.*, 1910, 266, 307, 318, 374.—Charlesworth. Certificate of Appreciation, R.H.S., August, 1910.

O. PENELOPE (C. Nœtzliana ♀ × O. incurvum), *O.R.*, 1911, 44.—Charlesworth.

ONCIDIUM.

PRIMARY HYBRID.

O. HYBRIDUM (lamelligerum × tigrinum ♀), *O.R.*, 1910, 8, 22, 268.—Charlesworth. Certificate of Appreciation, R.H.S., December, 1909.

The first artificially-raised hybrid in the genus.

Fig. 8. MILTONIODA HARWOODII (see p. 74).

VUYLSTEKEARA.

A genus established to contain the hybrids between Cochlioda, Miltonia and Odontoglossum.

V. INSIGNIS (M. vexillaria ♀ × Odontioda Vuylstekeæ), *O.R.*, 1911, 60.—Vuylsteke.

Odontoglossum (unnamed), *Rev. H. Belge*, 1910. 150, f.

R.A.R.

CALENDAR OF OPERATIONS FOR MARCH.

BY J. T. BARKER, THE WEST HILL, HESSLE, E. YORKS.

TEMPERATURES.—These should be kept a little higher all round than the figures given in January, even without sun heat, and when the sun shines the rise will, of course, be considerable, which will do a great deal of good, and be of great benefit to the plants.

ATMOSPHERE.—Moisture, with the increased temperatures, may now be distributed more freely. The fire heat by night, and the increased sun power by day, will be the means of the moisture evaporating quickly, and damping down twice a day should not now be too much. In any case it must be done once daily, and that when the temperatures have risen to their proper level in the morning.

WATERING must still be performed with care and discrimination. If the compost should not be dry enough to require it, leave it over until the next time, always remembering that it is easier to make it wet than to get it dry again, and much damage is often done at this time of year, both to old and young roots, by a compost saturated with water. I do not believe in sprinkling the surface of the compost, but let the plants get thoroughly dry between each operation, and then give them a good soaking. Dribbling is as injurious to Orchids as to any other class of plants. If the proper balance of atmospheric moisture is maintained, no harm will occur to plants being on the dry side, even for a day or two.

VENTILATION.—At no time of year must more care and attention be given to this essential detail. Air must be admitted on all favourable occasions, and whenever the outside conditions permit. Fresh air gives strength to plants, but it must, of course, be admitted with caution now, as they are naturally more delicate and tender after the winter's comparative confinement. In no case should draughts of cold air be permitted, and a great deal of discretion must be used in the ventilation of the different houses.

STOKING also requires particular care at this season. A fair amount of artificial warmth will still be required at night, but during sunny days the less in the pipes the better, or the temperatures will rise to an abnormal degree, and to reduce it will require some thought and judgment. Excessive fluctuations in temperature are often the cause of much damage being done.

SHADING.—In some parts of the country shading will come into general use this month, but I do not believe in an excessive use of the blinds at this early date, though we must bear in mind that the leaves and bulbs of our plants are tender and easily scorched.

REPOTTING.—Push on with this whenever possible, and in my opinion any plant that is not doing satisfactorily is best repotted at this time of year,

for a plant that is not growing must be dying. One cannot always avoid plants going back, even in the best-grown collections. Constitutions of plants, like individuals, vary, and must be studied if success is to be attained. A plant properly potted and watered will usually require a larger receptacle before the compost is decayed, and become sour, but should there be any danger of this latter, don't hesitate to repot it. I do not believe in top dressing, as I think it much better to renew the compost right through.

CATTLEYAS.—C. Warneri is now on the move, but must not on any account be unduly hurried, or the crop of flowers will be small, and their growth will be short of substance and strength. As soon as young roots are seen to be pushing, any that require it may be repotted, keeping them on the dry side until the roots are seen to be pushing through the compost. C. Warscewiczii (gigas) is also on the move, but I prefer to repot in the autumn after flowering, as I find the roots are growing and pushing through the compost all winter. I do not keep them so dry as is often practised, and I always have a satisfactory crop of flowers. C. Trianæ and Percivaliana, as they pass out of flower, should be thoroughly overhauled, and any that require it repotted, thoroughly cleaned, and put in their growing quarters.

LELIAS of the anceps and autumnalis type, that have been resting and kept dry since blooming, should also be treated in the same way as soon as new roots are seen to be pushing from the rhizome, and this is easily detected, by little lumps standing up on the rhizome, about the size of pin-heads. This is the best time of all to repot them. I do not believe in this class of plants being allowed to get straggling, and a long way from the compost, as the growths get weaker and weaker, and eventually die. The mixture recommended for Cattleyas in previous Calendars, will suit them admirably.

THUNIAS must be repotted annually, and are worth any amount of trouble to flower them satisfactorily. The compost I recommend for them is one half peat and one half loam, from which all the fine particles have been taken, mixed with some sphagnum moss and dried cow manure. The drainage should be ample, as they require a large amount of water when in full growth, and they should not be potted too firmly. They delight in a sunny position in the Warm house, close to the glass, and water must be very sparingly given them until the flower spike can be felt in the top of the new growth. One, two or more growths can be placed in a pot, according to requirements, and if wanted for exhibition up to a dozen, using a six-inch pot for the former up to a ten-inch for the latter.

ANGULOAS are now becoming active after their resting season, and should it be considered necessary can be repotted, using a compost like the preceding, but if the loam is not of the best quality use less of it, as I am firmly convinced that unless it is of the best it is absolutely harmful. They

grow well either in the Intermediate or Cool house. The same remarks apply to Lycastes, which for cultural purposes may be treated in the same way. Both, after being repotted, must be watered with great care until the new roots are seen to be nicely hold of the compost.

HABENARIAS, having been resting in a pretty dry position, either in the warm or a warm Intermediate house, since autumn, will now have lost their foliage and again be pushing new growths. The compost recommended for Anguloas and Lycastes should be used for them, with the addition of some coarse silver sand. The tubers should be turned out of their pots, the old compost carefully removed, and repotted in clean ones (I think it unnecessary to say that all pots, pans, &c., should be thoroughly cleaned before being used). The pots should be small, a four-inch one being large enough for one tuber, or three tubers may be placed in a size larger. Place one crock only at the bottom, as the tubers being long require the whole space; then place some nice clean crocks half way up the pot, and finish off with the compost, giving them afterwards a good position in the Warm house. Water sparingly until new growth is fairly advanced, spraying on favourable occasions, to prevent red spider and other insect pests.

COCHLIODAS that are pushing new growths, and the compost in a decayed condition, may be repanned, as I find they do better in pans, or half pots, as they are called, in the compost recommended for Odontoglossums in previous numbers. They should be grown in the Cool house, in a fairly damp situation, and on hot days delight in having their leaves sprayed on the under sides. It is also advisable to select as shady a position as possible for them.

ANGRÆCUMS, Aërides, Saccolabiums, and Vandas, which through the winter have been kept as dry and cool as it is safe, will be starting again into growth, and will be pushing new rootlets, and henceforth may have a more liberal supply of moisture, both in the atmosphere and at the root. Any that have become leggy and unsightly may be lowered, filling the pots about half full with clean broken crocks, finishing off with clean, living sphagnum moss. Whilst overhauling these plants it is a good plan to give them a thorough cleaning with some reliable insecticide, as some of them are subject to the attacks of a small scale, which is very difficult to get rid of when once it gets a firm footing.

CALANTHES of the deciduous section may be repotted just before the new growths commence to push their roots, using the compost as for Thunias. I do not recommend too heavy a compost, relying rather on feeding later on with a weak solution of manure water. I prefer a good rooting medium to a close retentive compost. These should be grown in the warmest house, and must be watered with great caution until the new growths are nicely away and rooting freely. They must not receive a check from any source,

and whenever water is applied to them take care that it is always of the same temperature as the house in which they are growing, as I think many cases of spot in the leaves is attributable to this cause.

GENERAL REMARKS.—Wage warfare diligently against all insect pests. Try and work out a method of procedure of all work to be undertaken during the coming months, as a well-laid plan of campaign makes work more effectual, and easier accomplished.

FEEDING EPIPHYTAL ORCHIDS.—I have never seen good results from this practise, so cannot recommend it.

CATTLEYA AURANTIACA.

I wonder hybridists don't do something with Cattleya aurantiaca, as it is a most potent seed bearer, and nearly every blossom goes to seed—it would certainly produce something remarkable if crossed with Brassavola Digbyana or some of the Cattleyas, as its colour is such an intense orange. I have some dozen or more plants and they came into my possession by a pure accident, in the following manner. While collecting a lot of Cattleya Skinneri round the little town of San Felipe, in Guatemala, in 1909, I took quite a number of these plants, mistaking them for C. Skinneri, and you may imagine my astonishment when they came into flower. The vertical range of C. aurantiaca is very considerable, at San Felipe, 1,200 feet above sea level, they occurred with long pseudobulbs as much as 14 inches high, while at Moran, at 4,800 feet, I found them with short fat little pseudobulbs, about six inches in height; the flowers, however, present no difference, either in colour or size.

J. C. HARVEY.

[We can only recall two hybrids of Cattleya aurantiaca, E. aurantimedia (*Orch. Stud-Book*, p. 52), raised by Mr. E. O. Orpet in the Thayer collection, from C. intermedia ♀ and C. aurantiaca ♂, and C. guatemalensis, a natural hybrid between C. Skinneri and C. aurantiaca, of which only a few examples are known, and which Mr. Harvey might possibly re-discover if he should again visit the district when the plants are in flower. His note supplies an interesting confirmation of the record that the two parents grow together. C. aurantiaca is a somewhat anomalous species, and was at one time referred to Epidendrum, hence the name Epicattleya guatemalensis under which the hybrid was once described (*O.R.*, i. p. 134), when its history was given. It would be interesting to raise this hybrid artificially, as it is a very distinct and pretty little plant.

The flowers of C. aurantiaca are rather small, and from their colour may be expected to work out something like Lælia cinnabarina. Its habit however, is very different, and it might be worth trying with C. Dowiana, C. Forbesii, Lælia xanthina, or any hybrid with yellow in the flowers, as yellow is rather a desideratum in the Cattleya group.—ED.]

THE CATTLEYA FLY.

A PARTICULARLY bad outbreak of the Cattleya Fly has just been reported to us. A correspondent who has only been growing Orchids for two years, and has now about 300 plants, wrote a few days ago :—" Kindly let me know at the earliest moment what is attacking the new growths of my Cattleyas. Am I right in assuming it is the Cattleya Fly ? If so, what is the remedy ? I had no trace of it until this year, but now, unfortunately, nearly all my plants are affected. I enclose a couple of the young growths." On cutting these we found not only the grubs but some mature flies, and we wrote immediately advising the removal of every deformed growth, and fumigation if any flies had escaped, as the only remedy was to prevent more eggs being laid. A reply quickly came :—" I find all my plants are affected, and I have cut off about 150 new growths, which are full of either grubs or flies.

Fig. 9. THE CATTLEYA FLY (*nat. size and magnified*).

I am afraid some of the flies have hatched out and escaped into the house. I have fumigated three times since receiving your letter. The insects seem to keep in the fibre in the pots, and do not fly freely in the house, hence I am afraid fumigation does not have the full effect." He also asks whether any substance can be applied to the compost that will kill the flies without injuring the roots, and if the fly attacks other Orchids, as Dendrobiums, growing in the same house. We shall be glad if our readers will give us the benefit of their experience on these points. We should also like to know more of the life history of the pest, and how many broods there are in the year. An account of another bad outbreak was given at pp. 241, 242 of our eighth volume, with a figure magnified ten diameters and another just under natural size, which are here repeated.

ODONTOGLOSSUM HARWOODII.

THE annexed figure represents the striking Odontoglossum Harwoodii (Wiganianum × maculatum), to which a First-class Certificate was given by the R.H.S. on January 31st last, and is reproduced from a photograph kindly lent by Messrs. Charlesworth & Co., Haywards Heath, the raisers. It shows much of the O. maculatum shape and markings, but has taken the bright yellow colour of the other parent. The markings may be described as bright red-brown, those on the lip being very distinct in shape and

Fig. 10. ODONTOGLOSSUM HARWOODII.

arrangement. It may be compared with O. maculatissimum, another handsome hybrid of O. maculatum, which was figured at page 169 of our sixteenth volume, but, paradoxical as it might appear from the name, is much more spotted. In that case, however, the name was given to indicate the parentage, not the character of the hybrid, O. ardentissimum being the other parent. O. Harwoodii is named after Mr. H. Harwood Smith, Messrs. Charlesworth's able manager. It is a very handsome hybrid, but unfortunately we cannot indicate its brilliant colour. It should develop into a very fine thing when the plant becomes strong.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING was held at the Royal Horticultural Hall, Vincent Square, Westminster, on January 31st, when there was a fine display of Orchids, the awards consisting of seven Medals, two First-class Certificates, four Awards of Merit, and one Cultural Commendation.

Orchid Committee present: Harry J. Veitch, Esq. (in the Chair), and Messrs. J. O'Brien (Hon. Sec.), Sir Jeremiah Colman, Bart., H. Little, W. Thompson, F. Sander, C. H. Curtis, J. Cypher, W. P. Bound, H. G. Alexander, W. Cobb, A. Dye, W. H. White, Gurney Wilson, R. G. Thwaites, J. Wilson Potter, W. Bolton, and de Barri Crawshay.

Lt.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent a few choice Orchids, three of which gained awards. The others were Brassocattleya Euterpe (C. Schilleriana × B.-c. Veitchii), with neat rosy lilac flowers, and a fringed lip with greenish primrose disc, Cattleya Sulla, a hybrid of C. Mendelii, three spikes of Cœlogyne Moorei with seven or eight flowers, and sprays of Vanda Watsonii.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. H. Day), received a Silver Flora Medal for a fine group, including the brilliant Odontioda Cooksoniæ Royal Scarlet, a fine O. Lutetia, three good Odontoglossum armainvillierense Herbert Goodson, and a few others, with Cypripedium Minos Youngii, some good Brassocattleyas, and a fine specimen of Cymbidium Lowio-grandiflorum in the centre.

J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis), sent a good Cypripedium Mary Beatrice.

Captain Hope, R.N., St. Mary's Isle, sent a spike of Arachnanthe Maingayi, from a plant brought by him from Singapore some years ago.

S. Larkin, Esq., The Ridgeways, Haslemere (gr. Mr. Hale), sent a small group, including Cattleya Trianæ alba and C. T. Edith Noel, the latter a fine coloured form, C. Octave Doin, Larkin's var., with broad rosy crimson lip, Lælia anceps Sanderiana, Cypripedium aureum varieties, and others.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford, Dorking (gr. Mr. W. H. White), sent a spike of Epicattleya nemorale-gigas (Epidendrum nemorale × Cattleya Warscewiczii), most like the former in shape, but the flowers white, tinged with lilac, and the ovate lip veined with purple in front.

John S. Moss, Esq., Wintershill, Bishops Waltham (gr. Mr. C. Kench), sent a fine specimen of Odontoglossum nevadense with several spikes.

Edward Roberts, Esq., Park Lodge, Eltham (gr. Mr. Carr), sent a small group of Cypripediums, noteworthy among them being good examples of C. Sir Redvers Buller, C. aureum Pomone, C. St. Albans, and C. Victor Cavendish.

Major Rogerson, Heatherdale, Spencer Road, Harpenden, sent a small group, including a good Cattleya Trianæ alba, Cypripedium aureum Surprise, and other varieties of C. aureum, C. Æson giganteum, C. Lillie Mayall, and C. Leeanum Charles Rogerson, a very distinct form.

W. Thompson, Esq., Walton Grange (gr. Mr. W. Stevens), sent a good Odontoglossum Clytie (Edwardii × Pescatorei), a pretty flower, having a white ground spotted with claret-purple.

Messrs. Charlesworth & Co., Haywards Heath, staged a very fine group, to which a Silver-gilt Banksian Medal was given. The centre was made up of some well-flowered white forms of Lælia anceps, and a lot of brilliantly-coloured Odontiodas were grouped at one end, O. Diana being one of the best. There were also some good Cattleya Octave Doin, Læliocattleya bella alba, with a number of rare species, while among a number of good hybrid Odontoglossums were O. Doris, having white flowers, regularly blotched with claret, and two others, with a fine Miltonia, which secured awards.

Messrs. Sander & Sons, St. Albans, received a Silver Flora Medal for a fine group, including Cattleya Trianæ alba, C. Octave Doin, and other good Cattleyas, Dendrobium bellatulum and D. tetragonum, the curious little Lælia Lundii, described at page 62 of our last volume, the rare Coryanthes Balfouriana, with apricot-yellow flowers, Oncidium splendidum, Maxillaria elegantula, Cypripedium Leeanum Thunderer, a large and finely-shaped flower, aud other good things.

Messrs. Armstrong & Brown, Tunbridge Wells, staged a choice group of Cypripediums, to which a Silver Banksian Medal was awarded. It contained C. Beryl splendens, a fine and very richly-coloured flower, C. Euryades New Hall Hey var., C. Admiral Wilson (Ville de Paris × Leeanum), a finely blotched flower, some good C. insigne and C. aureum, C. Beeckmanii, C. Helen II., and various others, one of which is included under Awards.

Messrs. James Cypher & Sons, Cheltenham, received a Silver Banksian Medal for a select group of Cypripediums, including C. Beeckmanii, a good C. Thompsonii, C. Minos Youngii, some good C. Leeanum, C. Alcibiades superbum, C. Lathamianum superbum, and some good seedlings.

Messrs. Stuart Low & Co., Enfield, received a Silver Banksian Medal for a good group of hybrid Cypripediums, Brassocattleyas, Lycaste Skinneri, Saccolabium giganteum, Epidendrum Cooperianum, Cattleya Percivaliana alba, C. Enid, and various others.

Messrs. Hassall & Co., Orchid Nursery, Southgate, sent a good plant of Cypripedium Beryl with three blooms.

Messrs. Heath & Sons, Cheltenham, sent a small group of Cypripediums.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent Cattleya Trianæ Goliath, a fine form, with broad petals.

FIRST-CLASS CERTIFICATES.

ODONTOGLOSSUM CRISPUM PEACOCK.—A very finely-shaped white form, with a large zone-like reddish-crimson blotch near the base of the sepals and petals, and a few smaller ones with a chestnut brown blotch on the lip. The spike bore about a dozen very fine flowers. Exhibited by Lieut.-Col. Sir G. L. Holford, K.C.V.O.

ODONTOGLOSSUM HARWOODII (Wiganianum × maculatum auriferum).—A very handsome hybrid, having broad bright yellow segments, with some dark chocolate blotches on the sepals, and some similar lines on the base of the petals. Exhibited by Messrs. Charlesworth & Co. (see p. 81, fig. 10).

AWARDS OF MERIT.

BRASSOCATTLEYA EUTERPE (C. Schilleriana × B.-c. Veitchii).—A finely shaped flower, having broad greenish white sepals and petals, tinged with lilac, the latter rather darker, and the fringed lip pale rosy lilac, with a greenish primrose disc. Exhibited by Lieut.-Col. Sir. G. L. Holford.

CYPRIPEDIUM DUKE OF CONNAUGHT (Beryl × nitens G. S. Ball's var.).—A flower of good shape, with clear greenish yellow ground colour, and some chocolate brown spots on the dorsal sepal and petals, the former being margined with white. Exhibited by Messrs. Armstrong & Brown.

MILTONIA WARSCEWICZII PICTA.—A fine variety, bearing a branched spike, the sepals and petals light brown tipped with yellow, and the lip very broad, and dark rose with a white apex. Exhibited by Messrs. Charlesworth & Co.

ODONTOGLOSSUM MARIÆ (Uroskinneri × Queen Alexandra).—A pretty hybrid, having greenish yellow sepals and petals, spotted with brownish purple, and a broad white lip spotted with rose-purple. Exhibited by Messrs. Charlesworth & Co.

CULTURAL COMMENDATION.

LÆLIA ANCEPS CHAMBERLAINIANA.—A very fine flower, bearing ten spikes and an aggregate of twenty-one richly-coloured flowers. To Mr. H. G. Alexander, gr. to Lieut.-Col. Sir G. L. Holford.

At the meeting held on February 14th there was again a very fine display of Orchids, and the awards consisted of one Lindley and seven other medals, one First-class Certificate, three Awards of Merit, one Botanical Certificate, and one Cultural Commendation.

Orchid Committee present: Mr. J. Gurney Fowler (in the Chair), and Messrs. Harry J. Veitch, Stuart Low, F. J. Hanbury, Gurney Wilson, T. Armstrong, A. McBean, Walter Cobb, J. Charlesworth, J. Cypher, W. H. Hatcher, H. G. Alexander, J. E. Shill, Arthur Dye, W. H. White,

H. Ballantine, J. Wilson Potter, W. Bolton, de Barri Crawshay, C. Cookson, J. S. Moss, and Sir Jeremiah Colman.

Lt.-Col. Sir G. L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), staged a magnificent group of white Lælia anceps, including about twenty plants, carrying ninety-four spikes and 330 flowers, a Silver-gilt Lindley Medal being awarded. A fine Cattleya Dirce, Westonbirt var., was also shown, with a magnificent specimen of C. Trianæ (see Awards).

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park (gr. Mr. J. Collier), staged a group of ten well-grown examples of Dendrobium Lady Colman (Artemis × Findlayanum), showing much variation.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), staged a few good Odontoglossums, including O. Valeria (Edwardii × Vuylstekei), bearing a spike of mauve-brown flowers, with the apex of the lip lilac, O. Verona (Adrianæ × Vuylstekei), with reddish brown flowers, O. Vuylstekeæ (crispo-Harryanum × Vuylstekei), O. Lambeauianum Purple Queen, and a form of O. amabile.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. E. Day), sent Cattleya Trianæ Goodsonii, having a fine rose-purple blotch at the apex of the petals, also Odontoglossum ardentissimum G. E. Day and O. a. Lamas, two handsomely-blotched forms.

F. J. Hanbury, Esq., Brockhurst, East Grinstead, sent flowers of Dendrobium chessingtonense, Hanbury's var.

The Duke of Marlborough, Blenheim Palace, Woodstock (gr. Mr. Hunter), sent a good form of Cypripedium bellatulum.

R. G. Thwaites, Esq., Chessington, Streatham Hill (gr. Mr. J. M. Black), sent the brilliant Sophrocattleya Wellesleyæ and S.-c. Saxa.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent a good plant of Cypripedium Wellesleyæ with four flowers, C. Nerissa (Maudiæ × San Actæus), C. Little Gem, Westfield var., and a large form of Cattleya Trianæ.

A plant exhibited by Sir Trevor Lawrence, Bart., is mentioned under Awards.

Messrs. Charlesworth & Co., Haywards Heath, staged a very fine group, to which a Silver-gilt Flora Medal was awarded. The centre consisted of a lot of well-flowered Phalænopsis Schilleriana, while on either side were numerous Cattleyas, Lælias, Brassocattleyas, Cypripediums, Odontoglossums, brilliantly-coloured Odontiodas, white forms of Lælia anceps, Lycaste Skinneri, Calanthes, &c. We noted a beautiful form of Zygocolax Charlesworthii, six remarkably diverse forms of Sophrocattleya Marathon, S.-c. Carna (L.-c. Cappei × S.-l. heatonensis), a very brilliantly-coloured hybrid, Renanthera Imschootiana, the pretty Cirrhopetalum Micholitzii,

Miltonia Warscewiczii, Odontioda keighleyensis, O. Craveniana, O. Bohnhoffiæ, O. Lutetia, and various others, with a row of Dendrochilum glumaceum in front.

Messrs. Armstrong & Brown, Tunbridge Wells, received a Silver Flora Medal for a fine group, including some good Cypripediums, Vanda Amesiana, Læliocattleya Daffodil (L. Jongheana × L. Mercia), L.-c. Wilhelmina (C. labiata × L.-c. elegans), a richly-coloured form, a pretty hybrid from Brassavola glauca and Cattleya Percivaliana, Odontioda Bradshawiæ and keighleyensis, Cypripedium aureum Hyeanum, C. Beryl splendens, C. Venus, Orchidhurst var., C. Dauphine, C. Mary Beatrice, and other good things.

Messrs. James Cypher & Sons, Cheltenham, received a Silver Flora Medal for a fine group, including some good Cypripediums, Dendrobiums, and Calanthes, Cattleya Trianæ, Cymbidium eburneum, Pleurothallis Roezlii, Dendrobium speciosum, D. aggregatum, Lycaste Skinneri alba, Cirrhopetalum picturatum, Cypripedium Beeckmanii, C. Actæus, good forms of C. insigne, C. aureum virginale, C. Mrs. Wm. Mostyn, C. decipiens, &c.

Messrs. Stuart Low & Co., Enfield, also received a Silver Flora Medal for a fine group, containing some good Dendrobium Wardianum, Cattleya Percivaliana Little Gem, C. Trianæ, Pleurothallis Roezlii, Angræcum citratum, Bulbophyllum comosum, Læliocattleya Ophir, Lælia Jongheana, Saccolabium giganteum, Oncidium cheirophorum, Gomesa crispa, Dendrochilum glumaceum, Cypripedium Minos Youngii, Brassocattleya Leemanniæ, &c.

Mr. E. V. Low, Vale Bridge, Haywards Heath, received a Silver Banksian Medal for a fine group of Cypripedes, including C. Olivia, C. Maudiæ, C. Beryl, West Point var., C. fulshawense, C. Godefroyæ leucochilum, C. Venus, C. Minos Youngii, C. aureum Œdippe, C. a Surprise, a fine plant of C. villosum aureum, &c., with another which is mentioned under Awards.

Messrs. J. & A. A. McBean, Cooksbridge, received a Silver Banksian Medal for a small group, including some good Odontoglossum crispum, O. Edwardii, a fine form of O. Lambeauianum, two good Cattleya Trianæ, some fine white Lælia anceps, Cymbidium eburneo-Lowianum, Sophronitis grandiflora, and some good Cypripediums.

Messrs. Sander & Sons, St. Albans, also received a Silver Banksian Medal for a good group, including forms of Cattleya Trianæ, the bright yellow Læliocattleya Oriens, Saccolabium bellinum, Maxillaria luteo-alba, Sarcochilus Fitzgeraldii, a fine plant of Odontoglossum brevifolium, with eight spikes just beginning to open, O. Thompsonianum, O. Jasper, O. McNabianum, Miltonia Warscewiczii, Odontioda Cooksoniæ, O. Brad-

shawiæ, and another pretty Odontioda from C. Nœtzliana and O. Andersonianum, Vanda Watsonii, the rare Scaphyglottis Behrii, Phragmopedilum caudatum Wallisii, Cattleya Empress Frederick, with white sepals and petals (Dowiana aurea × Mossiæ Reineckiana), and numerous other interesting things.

Messrs. Theodore Pauwels & Co., Meirelbeke, Ghent, sent a finely-blotched Odontoglossum crispum, and two other fine things which received awards.

Messrs. Hassall & Co., Southgate, sent a good Lycaste Skinneri, a light-coloured Cattleya Mendelii, Cypripedium Beryl, and another which is mentioned under Awards.

Mr. A. W. Jensen, Haywards Heath, sent a good Cattleya Schrœderæ, and C. S. lilacina, a very light-coloured form.

Messrs. A. J. Keeling & Sons, Bradford, sent Cypripedium Amandine (Spicerianum × unknown).

FIRST-CLASS CERTIFICATE.

BRASSOCATTLEYA SENATEUR DE BAST (B.-c. Veitchii × B.-c. Leemanniæ).—A very fine and richly-coloured hybrid, having broad, rose-coloured sepals and petals, and the lip well expanded and deeply fringed, with a deep yellow centre and much yellow veining on the disc. Exhibited by Messrs. Theodore Pauwels & Co.

AWARDS OF MERIT.

CYMBIDIUM LAWRENCEANUM (insigne × Lowianum concolor).—A very pretty hybrid, having cream-coloured sepals and petals, flushed with rose at the margin, and the lip with some reddish rose suffusion in front, and a few small spots on the side lobes. Exhibited by Messrs. Th. Pauwels & Co.

CYPRIPEDIUM AUREUM LAEKENENSE (Sallieri Hyeanum × Spicerianum).—A fine thing, having a broad white dorsal sepal, with a greenish yellow base and a few brown spots, and the petals and lip yellowish brown. Exhibited by Mr. E. V. Low.

CYPRIPEDIUM CAROLA (Thompsonianum magnificum × Euryades splendens).—A large and handsome flower, having a white dorsal sepal, with a broad, dark purple median band and base, and the broad petals and lip suffused with deep brown. Exhibited by Messrs. Hassall & Co.

BOTANICAL CERTIFICATE.

XYLOBIUM LEONTOGLOSSUM.—An interesting species, bearing five racemes of pale yellowish flowers spotted with red-brown. Exhibited by Sir Trevor Lawrence.

CULTURAL COMMENDATION.

CATTLEYA TRIANÆ HYDRA.—A magnificent specimen, bearing twenty-two spikes, and an aggregate of ninety-six flowers. To Mr. H. G. Alexander, gr. to Lieut.-Col. Sir G. L. Holford.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A MEETING was held at the Coal Exchange, Manchester, on January 19th, when the Committee was present as follows: Messrs. E. Ashworth (Chairman), Cowan, Cypher, Holmes, Keeling, Parker, Stevens, Thorp, Ward, and Weathers (Hon. Sec.).

There was a capital show, a special feature being an extensive group of well-grown Cypripediums from Messrs. Armstrong & Brown, Tunbridge Wells. It was composed of the best up-to-date varieties, and was staged in a most effective manner. A Gold Medal was awarded.

G. S. Ball, Esq., Burton, Westmorland (gr. Mr. Herdman), was awarded a Silver Medal for a nice group, which included a fine specimen of Angræcum sesquipedale.

Messrs. Sander & Sons, St. Albans, exhibited a small collection of good things, including the pretty new hybrid, Cypripedium Charles Sladden.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was awarded a Silver Medal for a display of Cattleyas, Lælias, &c.

Messrs. Cypher & Sons, Cheltenham, staged a good group of Cypripediums, including fine examples of C. × Beeckmanii.

Mr. H. Arthur, Blackburn, staged a pretty exhibit in the "small amateur" section, and was awarded a Silver Medal.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), staged a small group, for which five points were awarded.

J. H. Craven, Esq., Keighley (gr. Mr. Corney), exhibited a plant of the rare Odontoglossum crispum solum.

J. Walmsley, Esq., Helmshore, sent a few hybrid Cypripedes, all raised from the same seed-pod, but showing great variation.

Other exhibitors, to whom the thanks of the Society was given, included S. Gratrix, Z. A. Ward, J. Robson, J. Birchenall, O. O. Wrigley, E. V. Low, W. Shackleton, S. H. Low & Co., and A. J. Keeling & Sons.

FIRST-CLASS CERTIFICATE.

S. Gratrix, Esq., for Cypripedium Curtmanii, West Point var., a fine, bold, well-shaped form, quite distinct from the type.

AWARDS OF MERIT.

Messrs. Sander & Sons, for Cypripedium Charles Sladden.

Mr. E. V. Low, for C. Actæus var. wivelsfieldiense.

S. Gratrix, Esq., for C. Moonbeam, West Point var.

E. Bostock, Esq., for C. Hector (parentage not known).

Z. A. Ward, Esq., for Odontoglossum amabile var. Audrey.

Messrs. Armstrong & Brown, for Cypripediums Leo-aureum, C. eboraicum var. aureum, C. Admiral Wilson, C. Cupid, C. Dauphine, C. Amboyna giganteum, C. Arthurianum, Oakwood var., and C. Helen II. var. Fascinator.

THE AMATEUR'S COLLECTION.

By Alwyn Harrison.

Having undertaken to write monthly articles on "The Amateur's Collection," it may be as well to state briefly the course it is intended to follow. Orchids suitable for the Cool and Cattleya houses will be considered, and the monthly work described, whilst descriptions of notable plants, both species and hybrids, which, if not already possessed, should be procured for every collection, will be given from time to time.

Cool house.

It will not be necessary to dwell at length on the structure and formation of the Cool house, as houses of different shape and arrangement are numerous and equally suitable, and for those contemplating the erection of such, I would refer them to an article on the subject in vol. xvii., pp. 292-295. A low house should be chosen, if possible, for the accommodation of these cool Orchids. For the heating of this house, any one of the many boilers now made to fit into the end of the house is suitable, but one of the larger sizes should be procured, with sufficient piping to heat two sides of the house. There should be several ventilators on a level with the hot-water pipes, so that the air may be warmed before reaching the plants. A wide, open staging, not too far from the roof glass, is necessary, and the plants should be raised on inverted pots or saucers, according to their height. Shading should be done by a roller blind, which should be raised a few inches above the glass, so as to allow a free current of air to pass between. Place coke under the staging on the natural earth, and have tanks for the storing of rain-water. The path is best made of coke breeze, which retains its humidity for a considerable time when once damped. If possible a northern or western aspect should be chosen.

Orchids for the Cool house.

Odontoglossoms, both species and hybrids, will naturally occupy the greater part of this house, as they are essentially Cool-house Orchids, but any of the following can be grown in the same structure: The cooler species of Oncidium, such as Forbesii, macranthum, Marshallianum, ornithorhynchum, tigrinum, varicosum, &c., Ada aurantiaca, Trichopilias crispa and suavis, Lycaste Skinneri, and Cymbidium Lowianum. There are, of course, hundreds of other species and hybrids, but the above are those with which I should advise an amateur to start.

Positions.

At the warmest end of the house, place Odontoglossums having any of the following as one of their parents, O. Harryanum, Hallii, Edwardii, polyxanthum, Rolfeæ, and Wilckeanum, with Lycaste Skinneri and Ada aurantiaca; at the coolest end Odontoglossums crispum, Pescatorei,

pulchellum, Andersonianum, gloriosum, and odoratum, and on wires, suspended about a foot from the roof glass, Trichopilias, and Odontoglossum Rossii.

CULTURAL NOTES FOR MARCH.

This month is a good one in which to start a collection of Orchids, as the winter, which is the most trying season, is now over, and the plants are, for the most part, starting into growth.

WATERING.—Many Odontoglossums should now be in flower, and to these and to those which are growing, give always enough water to keep the surface moss green. If fine weather prevails, the plants will usually require a good dose every other day. Any other species or hybrids of other genera should, if in flower or active growth, be similarly treated. To any Orchids which have just passed out of flower, only give little water; to the species enough to prevent shrivelling, but to hybrids a little more, and remove them to the coolest end of the house. Syringe the floor and staging morning and evening on bright days, but once at midday when dull and cold weather prevails.

SHADING.—Should the sun be very bright, the blinds should be lowered for a few hours during the middle of the day.

VENTILATION.—The bottom ventilators should be opened every day, and as the weather becomes milder, those at the top should be opened for a few hours when the internal temperature of the house reaches 60° Fahr. No definite rules can, however, be laid down as to when to ventilate, as so much depends on the weather, and good judgment is all that is needed.

HEATING.—Fire heat cannot yet be safely dispensed with, for the house should never be shut up early in the afternoon, so as to retain the heat for the night. Adhere as closely as possible to the following temperatures:—

Day, 55-60° F.; night, 50-55° F.

POTTING.—The winter-flowering Oncidiums should by now have completed their rest, and if starting into growth again, should be immediately repanned. Any Orchid which requires repotting should be attended to this month or next; none, however, but plants just starting into growth must be so treated, and, if possible defer the operation till April. Use compost for the Oncidiums as mentioned on page 359 of last volume.

Sponge the leaves of all Orchids once a fortnight with tepid rain-water.

CATTLEYA HOUSE.

In general structure this house should resemble the Cool house, but it should be higher, and provided with narrow shelves about one foot below the eaves, and five feet from the ground. As the occupants of this house need a higher temperature, a larger size boiler and pipes to heat three sides of the house are necessary. A position facing south or south-west is best.

Orchids for the Cattleya House.

This house should contain the principal species of Cattleya, Lælia, and their beautiful hybrids, Cypripediums, Dendrobiums, and Vanda cœrulea, which would form an ideal collection with which to begin Orchid culture.

Positions.

At the warmest end of the house place the Dendrobiums and hybrids of Cattleya Dowiana aurea, chocoensis, Eldorado, and superba, also Lælia elegans, and at the coolest end Cypripediums, Vanda cœrulea, Cattleyas citrina, Harrisoniana, Loddigesii, with Lælia anceps, autumnalis, and præstans.

Work for March.

Watering.—As the days lengthen give more water to the plants. To all in flower and in active growth, it will usually be required once a day, but to those resting every three or four days. Only pure rain water must be used for direct application to the plants. Place any Orchids that are resting by themselves at the coolest end of the house. Damp the floor and staging three times a day when the weather is fine, and once, about eleven a.m., when dull. Many Dendrobiums will now be pushing their flower buds, and should receive more water and light.

Repot any Cypripediums which have finished blooming, using a mixture of loam and crushed crocks.

Keep newly-potted plants shaded till well re-established. Although many Læliocattleyas may now require repotting, I should advise amateurs to leave it till April, as we frequently have cold weather at this time, and after repotting, an increase in temperature is beneficial.

Shading.—Being for the most part sun-loving plants, the inmates of the Cattleya house will not yet need any shading, except the Cypripediums, and for these it will be found advisable, during the middle of the day, to throw a mat over the roof-glass under which they are grown.

Heat.—The following average temperatures should be maintained:

Day, 65°-75° Fahr. (sun heat); Night, 60°-65° Fahr.

Ventilation.—Owing to a higher temperature being necessary here than in the Cool house, air cannot be admitted in as large quantities, but it is essential that fresh air be admitted, hence the need of keeping up the prescribed temperatures, to allow the ventilators being open for a few hours at least every day. Those on a level with the hot-water pipes should be opened at about ten a.m., and directly the temperature rises to 68° Fahr., while those at the roof should be slightly opened, increasing the amount of air in proportion as the thermometer rises.

Next month being the beginning of the busiest season in Orchid culture, owing to so much repotting then being done, I shall hope to explain clearly the method of potting the various genera.

R.H.S. ORCHID COMMITTEE.

THE following gentlemen constitute the Orchid Committee of the Royal Horticultural Society for the current year. New members are indicated thus* :—

FOWLER, J. GURNEY, J.P., Glebe Lands, South Woodford, *Chairman.*
VEITCH, HARRY J., V.M.H., F.L.S., 34, Redcliffe Gardens, S.W., *Vice-Chairman.*
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LOW, STUART H., Bush Hill Park, Enfield.
LUCAS, C. J., Warnham Court, Horsham.
MCBEAN, A. A., Cooksbridge, Sussex.
MOORE, F. W., M.A., D.Sc., V.M.H., Bot. Gdns., Glasnevin, Dublin.
MOORE, G. F., Chardwar, Bourton-on-the-Water, Glos.
OGILVIE, F. MENTEITH, 72, Woodstock Road, Oxford.
POTTER, J. WILSON, 219, Ashley Gardens, S.W.
SANDER, F., V.M.H., St. Albans.
* SHILL, J. E., The Dell, Englefield Green.

Thompson, W., Walton Grange, Stone, Staffs.
Thwaites, R. G., 23, Christchurch Road, Streatham, S.W.
White, W. H., Burford Lodge Gardens, Dorking.
Wilson, Gurney, F.L.S., Glenthorne, Haywards Heath.

ORCHIDS IN SEASON.

An inflorescence of the handsome Cattleya Adonis is sent from the collection of J. J. Holden, Esq., Southport, by Mr. R. Johnson. It combines the characters of its two handsome parents, C. Mossiæ and Warscewiczii, having the broad richly-coloured front lobe of the latter, and large rosy lilac sepals and petals. C. Enid is a later name for the same hybrid. A very large and handsome Paphiopedilum is also sent, which Mr. Johnson states was purchased as a hybrid with the record "insigne Harefield Hall × Leeanum compactum," but no one who has seen it can find any Leeanum in it, and he suggests a comparison with P. i. giganteum, as figured at page 9 of our January issue. The resemblance is certainly close, but in the one sent the blotches are rather smaller and more numerous towards the margin. We cannot, however, compare them in a living state. It may possibly be a case of reversion.

Flowers of a curious little hybrid between Cattleya Leopoldii ♀ and Lælia cinnabarina ♂ are sent by Dr. H. Goldschmidt, Essen-Ruhr, Germany, who remarks that the cross was made in February, 1905, and the seed was ripe and sown in September of the same year. It is a form of Læliocattleya Diogenes, but different in colour from those previously recorded. The sepals and petals are rosy lilac, and most like those of the Lælia parent in shape, while the lip is strongly three-lobed, and bright rose-purple, with the base of the side lobes white. The scape is two-flowered at present, showing that the plant is still small. It is rather curious that the reddish colour of L. cinnabarina is in this case practically absent.

A remarkably fine flower of the handsome Dendrobium Lady Colman (Artemis × Findlayanum) is sent from the collection of Sir Jeremiah Colman, Bart., Gatton Park, Reigate, by Mr. Collier. The petals are over $1\frac{1}{4}$ inches broad, and they have an expanse of $4\frac{1}{4}$ inches, the colour being rose-purple in the upper half, becoming nearly white at the base. The sepals and lip are correspondingly well developed, and the narrow blotch on the disc of the latter is very large and deep maroon in colour. It is from the finest form of a batch of plants raised in the collection.

A flower of the handsome Sophrocattleya Wellesleyæ (S. grandiflora × C. labiata) is sent from the collection of Francis Wellesley, Esq., Westfield, Woking, by Mr. Hopkins. It measures $3\frac{3}{4}$ inches in expanse, and is deep carmine-rose in colour, with a deep yellow throat to the lip. Another beautiful flower, called Cypripedium Cupid magnificum (whose parentage is not

given) shows affinities with C. niveum and insigne, the sepals and petals being white with purple spotting at the base, and the lip and staminode yellowish.

A fine form of Odontoglossum Crawshayanum (Harryanum × Hallii) is sent by Messrs. J. & A. A. McBean, Cooksbridge. The sepals and petals are very heavily blotched with dark brown, with yellow tips, and the lip is very broad, white, with many small brown spots on the basal half, and with the usual yellow spiny crest. The lip becomes light yellow as the flowers get old.

Three interesting flowers are sent from the collection of G. Hamilton-Smith, Esq., Finchley, by Mr. Coningsby. Cattleya Trianæ grandis is from a small propagated piece from the Bradshaw collection, and has very broad blush pink petals, and the front of the lip rich purple, with the usual deep yellow blotch in the throat. Odontoglossum Othello is a seedling flowering for the first time, and shows much of the O. Harryanum character. The other is supposed to be a form of O. amœnum (nobile × sceptrum), but is most like the second parent in shape and colour. It was purchased at the sale of the Wigan collection.

Another pretty form of Brassocatlælia Fragneana is sent by M. J. Ginot, St. Etienne, quite distinct from the one described at page 45. The flowers are light yellow, with an obscurely three-lobed lip, the front lobe being rose-purple, with some deep yellow in the throat.

THE HYBRIDIST.

CATTLEYA HOLDENII.--A very beautiful hybrid sent from the collection of J. J. Holden, Esq., Southport, by Mr. R. Johnson, who remarks that its parentage is C. intermedia alba × C. Warneri alba. The spike bears six charming white flowers, with the faintest tinge of blush pink on the front lobe of the lip. The lip is somewhat 3-lobed, but in other respects the flowers are fairly intermediate in size and shape.

ODONTOGLOSSUM ALWYN.—A hybrid raised in the collection of Alwyn Harrison, Esq., Lyndhurst, Watford, in 1907, from O. Ernestii (Adrianæ × triumphans) crossed with the pollen of O. Hunnewellianum, and now flowering for the first time. It bears a considerable resemblance to the latter in shape, and has light yellow flowers, much blotched with brown. The lip is round, and bears one large blotch in front and several smaller ones on either side of the two diverging keels of the crest, while the column wings are nearly entire. The seedling is very small at present.

LÆLIOCATTLEYA GLAUCUS.—A very beautiful hybrid, raised in the collection of Lieut.-Col. Sir G. L. Holford, K.C.V.O., Westonbirt, by Mr. H. G. Alexander, from Lælia purpurata crossed with the pollen of Lælio-cattleya rubens (C. Hardyana × L. pumila), and now flowering for the first

time. It is of excellent shape, the sepals and petals being very broad, and rich rose-purple in colour, while the lip is short and broad, rich purple-crimson, with some paler colour at the base of the tube, and buff orange in the throat. It shows an approach to L. pumila in shape, but the flower is much larger, and altogether a hybrid of much promise.

BRASSOCATTLEYA VILMORINIANA.—A handsome hybrid, raised by M. Ch. Maron, Brunoy, from Cattleya Mossiæ × Brassocattleya Leemanniæ. It received a Certificate de mérite at the meeting of the Société de Royale d'Horticulture de France, held on January 26th, under the name of Lælio-cattleya Vilmoriniana. The flowers are of good shape and well expanded, the sepals and petals magenta rose, and the broad lip darker in colour, veined with purple, and with some golden yellow in the throat.

A DIMEROUS CYPRIPEDE.

A VERY remarkable flower has been sent by Messrs. Sander & Sons, St. Albans, the different organs being in alternating pairs, and thus perfectly symmetrical. There are two sepals, equal in size and colour, two alternating petals, two perfect staminodes, opposite to the sepals, two perfect anthers, opposite to the petals, and a terminal, nearly orbicular stigma, not oblique as in the normal flower. It is said to be a seedling of unknown parentage, and it remains to be proved whether the abnormality is constant. It recalls Paphiopedilum Sir Redvers Buller somewhat in colour, the sepals being much dotted and lined with reddish purple on a light ground, and the petals red-purple, with a somewhat darker median line. The suppression of the lip and the regular development of the other organs gives the flower a very striking appearance.

ORCHID NOTES AND NEWS.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during March, on the 14th and 28th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on March 2nd, 16th, and 30th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 4 p.m.

TURIN INTERNATIONAL EXHIBITION.—Three Flower and Fruit Shows will be held in connection with the above; a Spring Show from May 11th to 25th; a Summer Show from September 16th to 24th, and an Autumn Show from October 25th to November 4th. Schedules may be had from the Secretary to the Horticultural Committee, 21, St. James Square, S.W.

Messrs. Duchesne & Lanthoine, Watermael, Brussels, having won the Hye de Crom Cup, offered to competitors among professional Orchid Growers, for three years in succession, 1908, 1909, and 1910, have become the actual possessors. An illustration of the Cup, with a group of some of the Orchids exhibited, is given in the "*Revue de l'Horticulteur Belge*" for February 1st.

The principal part of the magnificent Gold Medal group of Orchids exhibited by Messrs. Charlesworth & Co., Haywards Heath, at a recent R.H.S. Meeting, is figured in the *Journal of Horticulture* for February 9th.

LÆLIOCATTLEYA CRANSTOUNIÆ, WESTONBIRT VAR.—The Award of Merit given to this fine hybrid, as recorded at page 53, has been raised to a First-class Certificate by the Council of the R.H.S.

ORCHID PORTRAITS.

CATTLEYA MENDELII VAR. AMI FELIX.—*Rev. Hort. Belge*, 1911, p. 39, with fig.

CATTLEYA TRIANÆ, VAR. HYDRA.—*Gard. Chron.*, 1911, i. p. 108, fig. 54.

CYPRIPEDIUM DUKE OF CONNAUGHT.—*Gard. Chron.*, 1911, i. p. 83, fig. 43; *Gard. Mag.*, 1911, p. 106, with fig.

LÆLIA ANCEPS CHAMBERLAINIANA.—*Gard. Chron.*, 1911, i. p. 78, fig. 41.

MASDEVALLIA PACHYURA.—*Bot. Mag.*, t. 8361; *Gard. Chron.*, 1911, i. p. 89, fig. 49.

MILTONIA WARSCEWICZII.—*Journ. Hort.*, 1911, i. p. 159, with fig.

ODONTOGLOSSUM CRISPUM PEACOCK.—*Gard. Chron.*, 1911, i. p. 92, fig. 50; *Gard. Mag.*, 1911, pp. 106, 107, with fig.; *Journ. Hort.*, 1911, i. p. 137, with fig.

ODONTOGLOSSUM GROGANIÆ.—*Gard. Chron.*, 1911, i. p. 72, with suppl. fig.

ODONTOGLOSSUM HALSEYANUM.—*Garden*, 1911, p. 64, with fig.

ODONTOGLOSSUM HARWOODII.—*Gard. Chron.*, 1911, i. p. 98, fig. 51; *Gard. Mag.*, 1911, pp. 93, 94, with fig.

ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work*].

G.H.H.—See *O.R.*, xiv. p. 132. We will endeavour to deal with both questions shortly.

E.F.C.—We do not think that Laelia Boothiana was one of the parents of the hybrid mentioned. If the origin has not been correctly interpreted we must wait. There are far too many hybrids of unrecorded parentage.

Photographs received, with thanks.—A.E.B., J.T.B., A.H., C.P.R.

Received.—J.C.H., A.H.

P.W.—We are awaiting the report.

We have received from the Agricultural and Horticultural Association, 92, Long Acre, London, W.C., a copy of the "One and All Gardening Book," *Phlox*, by C. H. Curtis, F.R.H.S. Price one penny, and well illustrated.

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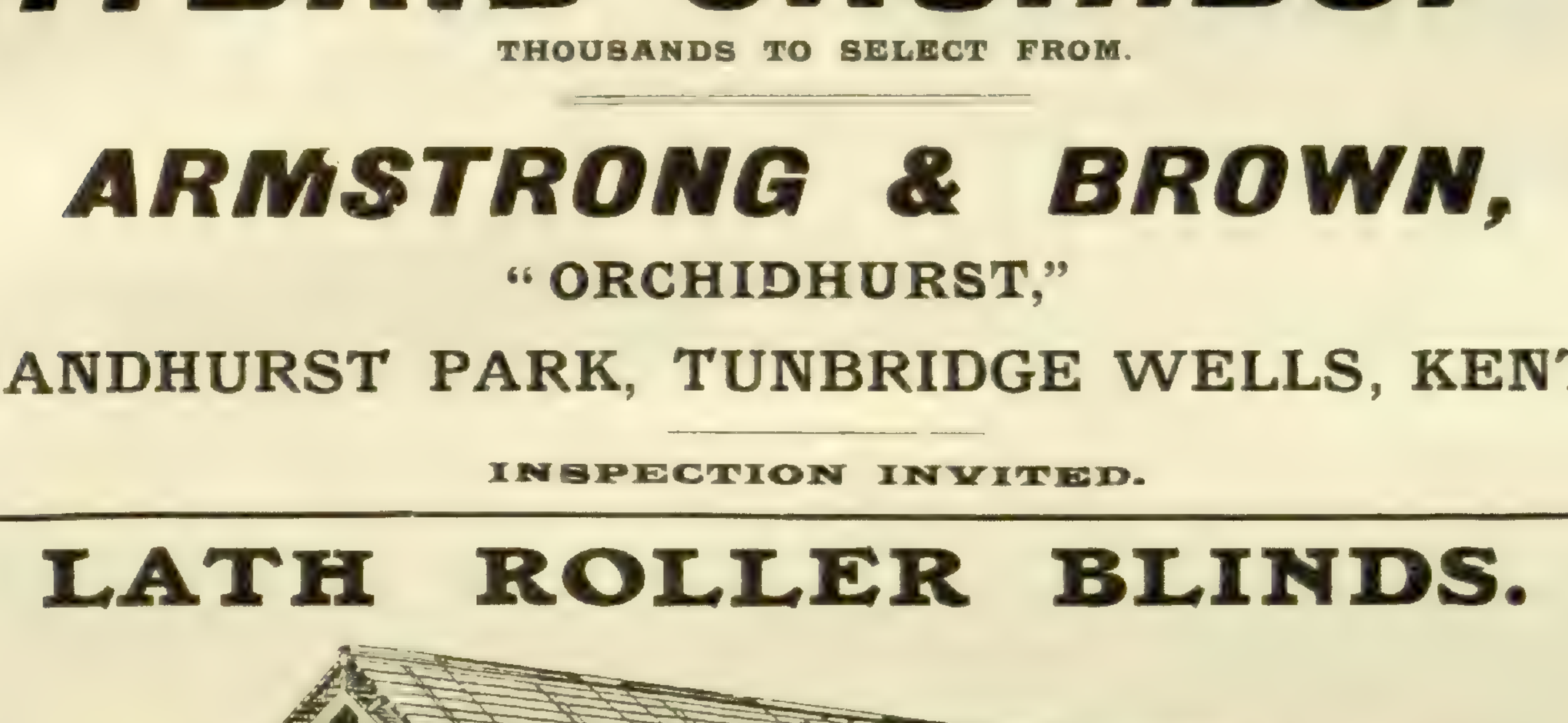

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The "Gardeners' Chronicle" of 1899 refers to our introduction of this glorious species, as flowering at Kew with a branching spike of its bright crimson and old gold coloured flowers.

The "Gardeners' Magazine" describes it as a gorgeous Orchid with crimson scarlet flowers.

The "Garden" speaks of it as a sensational Orchid; everyone is agreed that it is very beautiful, and we are pleased to have a few fine plants to offer, collected by our own collector in the original locality where our traveller first discovered it.

DENDROBIUM REGIUM.

This splendid new Orchid made quite a sensation when the President of the R.H.S. flowered and exhibited it at the Horticultural Hall. In growth it is quite like D. nobile, but the flowers are very different. They are larger and rose pink in colour, without the purple that always runs through the typical D. nobile. The labellum too, is very different to D. nobile. The maroon colour of the labellum, which is a characteristic feature of the latter species, is replaced in D. regium by a soft buttercup-yellow.

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VOL. XIX., No. 220. THE APRIL, 1911.

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An Illustrated Monthly Journal.

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THE ORCHID REVIEW.

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OUR NOTE BOOK.

OUR hybridists are making such rapid progress that it becomes difficult to keep up with the march of events, and the present month gives us at least four striking novelties to record. Messrs. Charlesworth & Co. have raised another fine hybrid from Odontoglossum Rossii rubescens, which, under the name of O. Jeanette, received a First-class Certificate from the R.H.S. on March 14th. O. amabile heatonensis was the pollen parent, and while considerably modifying the details of the flower it was not sufficient to obliterate the general character of the seed parent, which promises to be of great value for hybridising purposes, though we believe it is not one of the easiest to manipulate. O. Jeanette is one of the most promising additions to this beautiful genus, as may be seen from the illustration at page 105, where its characters are fully described.

That Odontioda is the coming genus is increasingly evident, for three handsome additions have appeared since our last notes were written. M. Henri Graire, Amiens, has introduced a remarkable novelty in Odontioda ignea, which gained an Award of Merit from the R.H.S. on March 28th. Cochlioda Nœtzliana and Odontoglossum Lindenii are the parents, and the combination has proved most felicitous, the hybrid having a much-branched inflorescence, with numerous small flowers of a dark scarlet-red tint. In habit and floral structure it most resembles the pollen parent, but the bright yellow colour is lost. It will be most interesting to see what any secondary hybrids from it are like.

Another very brilliant Odontioda is figured on page 104, this being a secondary hybrid raised by M. Ch. Vuylsteke from Odontioda Vuylstekeæ and a highly spotted form of Odontoglossum crispum, and thus a form of Odontioda Sensation, whose characters were only briefly recorded when it appeared about a year ago. Whether this is from the same capsule we cannot say, but it is at all events very beautiful, and M. Vuylsteke may well remark that there is a great future before this hybrid genus. He already has seedlings of the third generation, which shows remarkable progress.

Lastly a very striking hybrid from Cochlioda Nœtzliana and Odontoglossum Vuylstekei was exhibited by Mr. William Bolton, of Warrington, at the R.H.S. meeting on March 28th. The seedling was only producing its first flower, but it promises to develop into a very handsome thing when the plant becomes strong. The flower measured over $2\frac{3}{4}$ inches across, and presented a beautiful marbling of bright scarlet on a light yellow ground. Mr. Bolton has little doubt about its constitution, for before the meeting was over the pollen of a richly coloured Odontoglossum was applied, and we shall await the result with some curiosity.

The *Gardeners' Magazine* says that "Vuylstekeara is the new and commemorative title now given to all hybrids between miltonia and odontioda, and it will embrace all hybrids in which miltonia, odontoglossum, and cochlioda are concerned." But what have these beautiful genera done to be written thus? We tremble for Vuylstekeara, though for the present it has the good fortune to escape.

Our remarks at page 66 on the nomenclature of hybrids have brought us several letters and enquiries, some of which we will attempt to deal with at once. One correspondent writes: "I cannot understand why you call Odontoglossum ardentissimum O. armainvillierense when the former is the recognised name." The reason is very simple. In December, 1898, a hybrid Odontoglossum was exhibited at a meeting of the Société Nationale d'Horticulture de France by M. Jacob, gardener to Baron Edmond de Rothschild, Armainvilliers, under the name of Odontoglossum armainvillierense, a First-class Certificate of Merit being awarded, with the felicitations of the Jury. It was said to have been raised from O. Pescatorei crossed by Odontoglossum crispum, and was described at the time as a superb plant, having flowers of perfect shape, with very dark blotches. At the Temple Show in 1902 four seedling Odontoglossums were exhibited by M. Ch. Vuylsteke, without record of parentage, under the name of Odontoglossum ardentissimum, O. concinnum, O. dulce, and O. venificum. To the former a First-class Certificate was given and an Award of Merit to each of the others. It was afterwards stated that all were seedlings from the same capsule, a spotted O. Pescatorei crossed with the pollen of O. crispum Franz Masereel. Thus all are forms of M. Jacob's earlier hybrid, and those who recognise the law of priority should have no difficulty about the correct name.

Another correspondent enquires whether the Rules of Nomenclature require the publication of a Latin diagnosis in order to secure priority. He is assured that such is the case. We should say not. Those who would

insist on such a rule in the case of hybrids can have little idea of the necessities of the case. Hybrid Orchids are so numerous now-a-days that scarcely an important meeting is held without one or more putting in an appearance—sometimes several—and they are often recorded with the very briefest description, sometimes by the mere mention of the name and parentage, some even get overlooked altogether. We cannot possibly take this proposal seriously.

Then we have a remark from a correspondent that he is afraid we shall be in a very considerable muddle in the near future. The remark might have been made a long time ago, for things had become pretty bad when one of the earliest and best of the primary hybrids could be named about eighteen times over. For our part we hope that there are signs of improvement visible on the horizon. At all events a good many recent names have been more in accordance with binomial rules than has sometimes been the case, and we have noticed a praiseworthy attempt to avoid unnecessary duplication. There is, however, one matter which calls for serious attention, respecting which we have had some correspondence, but we must leave it for the present.

MANURE FOR ORCHIDS.

IN answer to the enquiry of your Sydney correspondent, at page 40, about manuring Orchids in America, I may say that we grow most of the Cattleyas in polypodium fibre, and I started to water the plants that were in pots with weak manure water, but found that the sediment rotted the peat and stopped up the drainage. I then ceased to water the plants direct, and started to damp the house down with the manure water about three or four times a week, during the months of August, September, and October, when closing the house in the afternoon. Last fall (autumn) I did not do it so often, and the plants are looking so well that people who come round and see them say that they are the finest lot of Cattleyas in the United States, and I must say that during the fifteen years I have been among Orchids I have not seen such a fine lot of plants. Many of the C. Mossiæ and C. Gaskelliana have made four breaks from one lead. I also think that it will prolong the life of the plants, as I know one gentleman who has done this for about six years, and he tells me that the plants are looking well.

I do not think this is any remedy for black spot, but I have always found it best to keep a good circulation of air round the plants, and then I do not think one will have much trouble with black spot. I may say that we use more top ventilation in the United States than we did in England.

Newport,
Rhode Island, U.S.A.

W. E. EGLINGTON.

THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON.

COOL HOUSE.

THE treatment required will be much the same as last month, except that more ventilation, shade and damping will now be necessary. On fine days syringe the plants overhead twice, once in the morning, and again about 3 p.m. Usually, if the weather is mild, no fire heat is needed if the house has brick sides. A little top air can be given on warm nights towards the close of this month. During the first week it is a good plan to thoroughly spring clean the house, and wash stagings, pots and plants, syringing the first named with a solution of insecticide, especially in all the corners. Look over every plant individually, and tie up any growths, or flower spikes needing support.

CATTLEYA HOUSE.

Here also, more air and water must be given, but do not shade the Cattleyas or Dendrobiums yet, though a shading made of flour and water, mixed thin, should be painted over that part of the roof glass under which the Cypripediums are grown. Also place here any Cattleyas or Dendrobiums, which are in bloom. Of the former, C. Trianæ, Schrœderæ, and several hybrids are now in flower, while a grand show is being made by Dendrobiums nobile, n. nobilius (a fine variety of which I hope to speak about next month), crassinode, Wardianum, &c. From now till the end of October, the paths and staging of both houses should never be allowed to become dry. Syringe freely overhead, and water all plants in active growth, bud, or flower, at least every alternate day, if bright weather prevails.

POTTING.

As remarked last month, we are now approaching the season when active growth is everywhere apparent, and this is generally considered as one of the chief months for the important work of repotting. Before giving descriptions of the various genera and the soils best suited for them, I would point out that although I advocate potting such and such an Orchid, it should only be disturbed if a larger receptacle is needed, or if the compost has become decomposed. It must also be observed that Orchids, with few exceptions, must only be repotted when the new growths are about two inches long, and new roots pushing out. If any Orchids mentioned as being advisable to repot now, are not thus advanced, they must be left till later.

ODONTOGLOSSUMS.

The majority of the winter and early spring-flowering species and hybrids are now ready for potting. The method for repotting holds good

for all subsequent genera mentioned. First knock the plant carefully out of the old receptacle, remove all crocks, sour soil, decayed bulbs and leaves, and trim all dead roots. Then fill a fresh pot two-thirds full of clean broken crocks, and on these place the plant, carefully spreading out the roots and working in the suitable soil. Do not set the plant too low in the pot, but have the base of the bulbs on a level with the rim. Place the Orchid well to one side to allow for future growth. Remove all useless back bulbs, leaving three to support the new lead. For compost use moderately well-chopped osmunda and polypodium fibres in equal parts, with a few heads of living sphagnum moss and a handful of oak leaves. Use the whole in a slightly damp state.

ONCIDIUMS.

The method and soil needed in the repanning of these was given in full in the last volume, page 359. Oncidium Marshallianum should be suspended near the roof glass in an Orchid pan, and not repanned annually. Grow this and the other species suggested last month near the light.

TRICHOPILIAS.

Should any of these require larger receptacles, remove the plants with care and place them in Orchid pans of proportionate size. For compost use a mixture of Orchid peat, osmunda fibre and moss.

CATTLEYAS, LÆLIAS AND THEIR HYBRIDS.

Many of the winter-flowering kinds will now be ready for repotting. If so, remove them with care from the old pots, and after cutting away all useless back bulbs, leaving three to support the new growth, place the plant in a pot filled three parts full of broken crocks. Spread out the roots, and on no account pot low. Use for compost a mixture of osmunda fibre and sphagnum moss.

CYPRIPEDIUMS.

For the green-leaved section, such as C. insigne, Charlesworthii, Leeanum, villosum, &c., I like a compost of good crushed crocks and fibrous yellow loam. Any plants of the above, or of their many hybrids, may be repotted. Carefully work out any sour soil, and if any plants have become crowded at the centre, carefully separate them. They can again be potted into one pot if it is desired to have a specimen. In this case the pieces should be planted near the edge of the pot, leaving room for extension on all sides. They may, however, be potted up singly, and will then quickly increase the stock. For the mottled-leaved section, such as C. barbatum, callosum, Curtisii, tonsum, &c., the addition of Orchid peat is of much benefit.

GENERAL NOTES ON POTTING.

Never overpot an Orchid of any kind. Keep all newly-potted plants

carefully shaded, and almost dry, until a firm hold has been taken in the new compost. Use the soil in a damp state, and then frequent overhead spraying will suffice, and little water need be given directly to the plants until a satisfactory start has been made. Frequently, after an Orchid has been trimmed, and useless bulbs removed, it can be replaced in the same sized pot, but on no account place it in the same one. Repotting is needed about every two years, but the surface soil may be renewed at any time. If, when repotting a plant, it be found that the soil and roots are in good condition, do not disturb it, simply remove with care from the old pot, and place in one of larger size, working in fresh soil round the sides. Two points must be impressed upon the beginner. (1) Repotting does not necessarily mean removing the plant to a larger receptacle. I mention this to caution beginners against over-potting. (2) Always use scrupulously clean pots and crocks. The potting of the other genera will be discussed when seasonable.

SUGGESTED ADDITIONS.

VANDA CŒRULEA.—Within the last few weeks there have been several large importations of this beautiful Orchid, and although it has the reputation of being difficult to manage, yet I should advise every amateur to give it a trial, as when once it is given a position it likes, this plant blossoms freely. The flowers are borne on a long spike in the autumn months, and are of a blue shade, with darker marblings. The blossoms continue long in perfection and it is certainly one of the most beautiful Orchids grown. Upon receiving the plants, if not already done, look over them carefully, and cut away any dead roots and leaves. Then place them in small pots filled with clean crocks. Stand them at the coolest end of the Cattleya house, give abundance of air, and a slight sprinkling of pure rain water once every three or four days.

Next month I shall hope to continue an account of the culture of this beautiful Orchid, and also to describe the means of propagating many of the choicer plants.

ORCHID CULTURE IN MEXICO.

I HAVE a great deal to occupy me in my regular business, travelling about to different places, yet I find time to take care of nearly 3,000 of our pets, with an Indian boy to help me. I am never without plants in bloom, and just now the show is very interesting. Cattleya labiata, C. Trianæ, C. Skinneri, C. aurantiaca, C. Loddigesii, C. superba, C. Lueddemanniana, a good piece of C. amethystoglossa, Saccolabium giganteum, Aërides quinquevulnerum, Phalænopsis Aphrodite and P. Schilleriana, Phaius grandifolius, Gongora sp., Dendrobium hybrids, several D. superbiens, Epidendrum atropurpureum, Lælia rubescens, Angræcum sesquipedale, Oncidium

splendidum, O. maculatum, O. Papilio, O. Cebolleta, Brassavola glauca, B. Digbyana, Epidendrum Stamfordianum, Trichopilia torbilis, Platyclinis glumacea, Cœlogyne speciosa, Dendrobium bigibbum, D. aureum philippinense, Vanda Amesiana, V. Boxallii, in all a lovely lot of bloom.

In the vicinity of Moran, where I found Cattleya aurantiaca (as described at page 79), I also met with Hartwegia purpurea, a pretty little gem with thick olive-green leaves dotted with whitish spots. It seemed very scarce, as I only came across a couple of plants. Here also occurred Epidendrum aromaticum of a fine form, with pale yellow flowers, and a charming thing. Alas! it does not succeed here; the heat and moisture seem to be too much for it. These varying capacities for adaptation to differences of climate present some interesting points for study. For example, Epidendrum aromaticum fails, coming from 4,800 feet, while Lælia superbiens, from 4,000 feet, succeeds very well. Oncidium ornithorhynchum, from 5,000 feet, near Orizaba, grows well here and flowers freely; but a companion plant in the same forests, O. incurvum, simply melts away in the rains of August, though seemingly a harder-textured plant. Why is it? Lycaste Skinneri, from 5,500 to 6,000 feet in Guatemala, meets the same fate here; while L. Deppei, from very cool forests near Orizaba and Xalapu, at 5,500 feet, does well here.

I may also refer to another singular instance of unadaptability to conditions here. For some years I have regularly received from Europe (in exchange for Mexican plants, amongst other things) some of the Indian Dendrobium aureum, always to fail with it, damping of new growths being the rule and a weak to negligable root action. Two years ago I received a lot of the Philippine form from a friend in Manila, and nothing could be more satisfactory: splendid bulbs and roots covering the blocks upon which they are grown; many bulbs larger than the original ones, and a fine crop of winter flowers. The same experience I have had with Phalænopsis from Java, for both P. amabilis and P. Rimestadiana do nothing, and gradually disappear, but the Philippine form grows magnificently, making leaves a foot long, with eight and ten blossoms. In these two instances, altitude apparently has nothing to do with it, but rather some subtlety of climate.

I might go on indefinitely citing these curious anomalies. On the whole, however, the range of plants I can grow here in the open is remarkable enough, and Dendrobium formosum and D. superbiens alongside of Lælia albida seems paradox enough for anyone. To be sure, we have our troubles; insect life is legion, big beetles and microscopic ones, cockroaches, scale, borers big and little, with not a negligable number of caterpillars: yet there is a way to fight them, and the damage is very slight, but the price—at least during the rainy season—is eternal vigilance.

J. C. Harvey.

Sanborn, Vera Cruz, Mexico.

ODONTIODA SENSATION.

A FLOWER of a very handsome Odontioda has been sent to us by M. Ch. Vuylsteke, Loochristi, Ghent, which has been kindly photographed by Mr. C. P. Raffill, and is reproduced natural size in the annexed figure. In answer to an enquiry as to its name and parentage, M. Vuylsteke replied: "It is a cross between Odontioda Vuylstekeæ and a highly spotted Odontoglossum crispum." This makes it a variety of Odontioda Sensation (*O.R.*, xviii., p. 171), which was exhibited at the Brussels International Exhibition about a year ago, and was recorded as a remarkable hybrid from Odontioda Vuylstekeæ and Odontoglossum crispum, with the flower 2½ inches across, and most like the latter, the colour being white, with a cinnabar-red blotch on each segment, and a bright yellow crest. Whether

Fig. 11. ODONTIODA SENSATION.

it is out of the same capsule is not stated. It is of fine shape, and the colour and markings are very handsome. The ground colour is white, with a yellowish tinge, this being most marked in a zone surrounding the central blotch of the sepals and petals, beyond which it shades off into light violet rose. The markings may almost be described as light cherry-red, much darker on the base of the lip, with the usual yellow markings on the crest. The details are well shown in the photograph, and need not be further described. The column wings are broad, and slightly denticulate. M. Vuylsteke writes that he has now Odontiodas of the third generation, and must be congratulated on his continued success.

ODONTOGLOSSUM JEANETTE.

A VERY handsome hybrid was exhibited by Messrs. Charlesworth & Co., Haywards Heath, at the R.H.S. meeting held on March 14th last, under the name of Odontoglossum Jeanette, and was awarded a First-class Certificate. Its parents are O. Rossii rubescens ♀ and O. amabile heatonense ♂, and as will be seen by the annexed figure, the influence of the seed parent decidedly preponderates. The photograph was kindly sent by Messrs. Charlesworth, together with one showing the four-flowered inflorescence, and part of the foliage. The flowers are of fine shape, and the colours remarkably rich. The sepals and petals are tinged with rose-purple, and the former are blotched with deep purple-brown, right to the

Fig. 12. ODONTOGLOSSUM JEANETTE.

apex, as in the seed bearer, while the latter are heavily blotched to beyond the middle, the apex being rose-purple. The lip is broadly rounded, and carmine-purple in colour, with a very large basal yellow area surrounding a prominent fleshy crest of the same colour. The side lobes are rather small, and angular at the base. The shape of the column, with its broad wings, also recalls O. Rossii. It forms an excellent companion to Messrs. Charlesworth's earlier O. Smithii, derived from O. Rossii rubescens ♀ and O. spectabile ♂, and figured at page 9 of our fourteenth volume, but is darker in colour and shows more of the O. Rossii character.

ORCHIDS AT TUNBRIDGE WELLS.

BEING in the neighbourhood of Tunbridge Wells in December last, I paid a visit to the nursery of Messrs. Armstrong & Brown, and never has it been my good fortune to see such a magnificent display of choice Orchids in bloom.

The nursery is situated on the summit of a hill about five minutes' walk from Southborough station, and consists of eleven long span-roofed houses, connected by a corridor, and facing them an Odontoglossum house, and the various offices.

On entering the first house, in company with Mr. Armstrong, one could not help being struck by the enormous number of Cattleya, Læliocattleya, and Brassavola hybrids, all of flowering size, and in the most perfect condition. Several plants were out in blossom, including a grand form of Cattleya Mrs. Pitt, dark and light forms of the beautiful C. Armstrongiæ (Harrisoniana × Hardyana), and a pale form of C. Miss Williams. Several plants of the magnificent Brassolælia Digbyano-purpurata were also pointed out, including a pure white variety with pale lemon throat. The house is large, and must contain several thousand plants. It has two side stages, and a large central one, at the top of which were several specimen Læliocattleya George Woodhams, a magnificent hybrid between Cattleya Hardyana and Lælia purpurata, and two very fine specimen plants of Angræcum Eichlerianum. On the left side were several healthy-looking seed pods, which told of hybridizing operations.

The next house is a lower span-roofed structure, devoted to Cypripediums, of which only the choicest varieties are grown. All the plants in this house are kept here until they flower, and then the best are retained, and the inferior varieties destroyed. Many magnificent hybrids were in bloom, and the house was simply one mass of colour. Among the choicest I noted C. Euryades splendens, several fine forms of Actæus, Baron Schröder, eboraicum Hitchinsiæ New Hall Hey variety, Captain Spender Clay (villosum auriferum × Fairrieanum), Mrs. Spender Clay (Actæus × Fairrieanum), and numerous other fine hybrids. At the end were about two dozen thriving plants of Bulbophyllum Godseffianum, one of the prettiest of the so-called botanical Orchids, its peculiar rocking lip being very interesting.

In the next house was a good group of the long-lost Cypripedium Fairrieanum, which made a fine display, and I noted several fine C. Hitchinsiæ, memoria Moensii, and other good crosses. On the other side five glorious Cypripediums stood out prominently: C. Thalia var. Mrs. Francis Wellesley, Thalia giganteum with three flowers, a fine Germaine Opoix Westfield variety, nitens G. S. Ball's variety, and a hybrid bearing the largest flower I have ever seen, from which magnificent secondary

hybrids should be obtained. The pretty C. insigne corrugatum and Sanderæ were represented by a score of healthy plants, bearing flowers of good size and substance. There were also fine plants of the varieties McNabianum and Laura Kimball. The grand Harefield Hall variety is also represented here by many plants of extraordinary vigour. There were at least 400 Cypripedium blooms in this house alone, all of which are selected varieties, and words cannot do justice to their beauty.

In the next house was a magnificent show of Odontiodas, O. Seymourii, Charlesworthii, and Bradshawiæ, all carrying long spikes with blossoms of good size and substance. At the end of this house was a collection of hybrid Sophronitis and Lælia flava crosses, which do better if grown a little cooler than the other Lælia hybrids.

Several Sophrocattleyas and Sophrocatlælias were in sheath. Some magnificent plants of the fine Odontoglossum Thompsonianum, and O. ardentissimum × Cochlioda Nœtzliana were throwing up long flower spikes, which should give a wealth of bloom in a few weeks. I noted also a large specimen plant of O. Rolfeæ in spike. At the end nearest the door were many seedling Odontoglossums, ranging from flowering size to minute green globules in the seed pans. On the opposite side were many hundred plants of the chaste white Dendrobium nobile virginale, now at rest. Suspended from the roof were about fifty pans containing on an average eight to ten plants of this beautiful Orchid in a smaller stage of growth.

In the next house there was a most complete collection of seedling Læliocattleyas approaching flowering size, and a large stock of the beautiful creamy-yellow Brassocattleya Leemanniæ.

We next visited the seedling houses, devoted to the raising of Cattleyas and Cypripediums, and there must have been many thousand such seedlings, all growing and germinating with the greatest vigour. In the house devoted to the raising of Cyripedium seedlings, there were several good hybrids, including C. Thalia Mrs. Francis Wellesley with three flowers, and a roundish form of C. Baron Schröder. There were also many fine plants of the beautiful green Cœlogyne pandurata. At the end of the Cattleya seedling house was a collection of interesting botanical Orchids, including a Cirrhopetalum carrying an umbel of its pretty flowers.

In the corridor were many good varieties of Cypripediums, and a row of beautifully clean-grown Dendrobiums, while suspended from the roof were many Cattleyas of all kinds, both species and hybrids.

In the larger Odontoglossum house, we noticed many flower spikes appearing. Many are specimen plants, and all will give a splendid display of bloom in their respective seasons. A collection of good hybrid Cymbidiums is grown here, and the handsome C. Lady Colman was

bearing a spike. A pretty Masdevallia tovarensis and a Lycaste, which I do not remember to have seen before, were pointed out.

These notes have already become lengthy, but of this large and choice collection pages might be written. Order and cleanliness are everywhere apparent, and there was not a single plant in any house which was not in excellent health. This speaks volumes for the great personal care and attention given to the plants by Mr. Armstrong. Many fine hybrids have in the past been raised by the firm, and, judging from the vast number of healthy seedlings of new crosses, it is reasonable to anticipate that a still greater number will reward the firm for their enterprise in the near future.

C. A. H.

CALENDAR OF OPERATIONS FOR APRIL.

By J. W. Barker, The West Hill, Hessle, E. Yorks.

TEMPERATURES should now read about 5 degrees higher all round than those given in January, with the exception of the Cool house, which should be kept as near the same figures as possible.

WATERING.—The remarks made last month as regards watering and ventilation will apply also to this one, as we have not yet done with cold, damp and miserable weather. March, with us, has been a most trying month; cold north-east winds, with the sun coming out at intervals, necessitating a great deal of attention to the ventilation and shading of the different houses.

This month we shall commence with the busy season, and shall find plenty to occupy our minds, likewise our hands. We can also look round and see the result of our practice in the way our plants have passed through the winter. If they have not wintered as well as we could wish, let us try to find the cause, so that in the future we may have better results. Speaking generally, I do not consider the past winter has been a bad one for plants. We have had no severe weather, necessitating an extra amount of fire heat, which, to my mind, is a great evil to successful plant culture.

CYPRIPEDIUMS, as they pass out of flower, must be thoroughly overhauled, and any that require it repotted, in the compost recommended in previous numbers. Any varieties which it is desirable to increase the stock of may be divided. Speaking of dividing or propagating this class of plant, I often think it a pity to see them cut into the scraps we often see; as such miniature plants cannot produce a good flower, and to my mind a plant that does not do so is only occupying room that could be put to better use. When all are got through, they should be thoroughly cleaned and put in their summer quarters to make their growths, allowing them room to develop.

CATTLEYAS, Lælias and Læliocattleays, as they pass out of flower and

are seen to be pushing roots, may be repotted in the compost previously recommended. Seedling Cattleyas, &c., may also be repotted at this season. The remarks respecting cleaning referred to under Cypripediums apply to these; in fact, to everything, as no plant can flourish if in a dirty condition.

CATTLEYA FLY must be watched for as the plants start into growth, and any abnormal growths should at once be taken off. It is better to take one or two clean growths off than let a brood of this terrible pest hatch out. I am pleased to say that if it is taken in hand it may be stamped out quickly and effectually. I have had odd plants show traces of it from time to time, which one is always liable to when receiving plants from different sources. Besides the remedies recommended on page 80, I would not hesitate to dip the plants entirely overhead in a solution of XL. All insecticide, and if used according to the instructions no harm will occur. This is only to be done in extreme cases.

CATTLEYA LAWRENCEANA will now be pushing its flower spikes, and should be kept on the dry side, and have a dry position in the house, as its flowers then will last much longer than in a damp situation.

DENDROBIUMS of the nobile and Ainsworthii class will now be in full bloom, or perhaps just passing over and commencing to push their young growths. When these are seen to be pushing new roots is the time to repot, and they must have attention. The compost I recommend for them is equal parts of peat, polypodium, osmunda fibre and sphagnum moss, the pots or pans to be well drained, and no water to be given until the roots are seen to be travelling through the compost. A slight spraying over head on hot days will be beneficial until they get nicely established, then twice or three times a day will not hurt them, according to the weather. Don't spray or syringe too much on dull cold days, or with a low temperature. A house of this beautiful class of plant, when properly grown and in full flower, makes a picture which is not easily forgotten. Seedlings of this family may also be repotted at this season.

MILTONIA VEXILLARIA and its varieties are now pushing up their flower spikes, and should not be allowed to suffer for want of water, or else their spikes may be deformed and their flowers small. Before their spikes get very far advanced they should be thoroughly cleaned. They should also be fumigated every week until their flowers show colour, to prevent the ravages of thrip and other insect pests. As they come into flower they may be placed in their summer quarters. The best place I find for them is in a shady corner of the cool Intermediate house.

ODONTOGLOSSUM CITROSMUM will now be pushing up its flower spikes, and should be watered with caution, as no water must be allowed to enter the young growth or they will decay, and with it the flower spike. I do not recommend the repotting of them until the flowers are over.

CŒLOGYNE CRISTATA and its varieties, that are now making new growth, and commencing to make new roots, should be repotted, if requiring it. Any plants that are in good condition, should not be disturbed, as often after repotting they shrivel and suffer, in spite of all that one can do for them. Any plant that requires repotting should be shaken clean out, and all back bulbs, except three or four behind the young growth taken off, afterwards placing as many leading portions together in a pan, according to the size used. The growths should be placed in such a position that they may all develop regularly, so that when in flower the spikes will be equally distributed over the plant. The compost I recommend is equal portions of peat, loam fibre, and sphagnum moss, well mixed together. They should be potted moderately firmly, and have a watering with a fine rose, to settle the compost around them, and then be placed at the warm end of the Intermediate house, and kept well shaded and sprayed until well established.

IMPORTED ORCHIDS.—Now is a good season to acquire any plants which it is necessary to add to a collection, as they have the whole of the growing season before them. Dendrobiums, Cattleyas, Vandas, Renantheras, in fact any species may be acquired and potted up in the usual manner, but not given any water until they commence to push roots, then they may be treated in the same way as established plants.

MAXILLARIAS.—Such varieties as M. venusta, grandiflora, picta, Turneri, and nigrescens should be examined as to their need for more pot room. Such varieties as M. Sanderiana and others which are showing their flower spikes, should not be disturbed until they have flowered. Maxillarias may be cultivated in pots or shallow pans, but M. Sanderiana and M. Lindenii are best grown in baskets, as they often push their flowers in a downward direction. The compost I use for them is the same as recommended for Cattleyas. Repotted plants must have extra attention in the way of shading from direct sunshine.

GENERAL REMARKS.—Means must now be taken to keep direct sunshine out of our houses, that is where it enters by the ends of the different houses, or where the blinds don't cover on the roofs. This must be done by stippling with a mixture of flower and water, or some other form of summer shading. Whatever preparation is used should be painted on when the sun is shining, so that it may dry quickly. It is important that the glass should be quite clean and free from dirt. Wherever it is necessary now is a good time to wash down the outsides of all houses, as there is always a certain amount of deposit which obscures the light, especially on dull days, when all the light possible is wanted. Slugs, woodlice, and cockroaches must be trapped and caught in the usual manner, as at this season they do a great deal of damage to flower spikes, young roots, &c.

BULBOPHYLLUM GODSEFFIANUM.

The genus Bulbophyllum contains many curious and really beautiful species, but they are not grown to anything like the extent that they merit, and considering how easy is their culture, and the freedom with which they flower, it makes one wonder why they are, on the whole, so neglected. It must be granted that the blossoms are not showy, but the great interest in the various species of this genus lies in the peculiarities of the structure of their flowers, their mobility and quaint shapes.

The species known as B. Godseffianum is one of the most suitable for general cultivation, and a corner in the moist part of a Cattleya house is the best position. The flowers of this species are borne singly, and are of

Fig. 13. Bulbophyllum Godseffianum.

good size, and continue upwards of three weeks in perfection. The sepals and petals are rich ochre yellow, spotted and striped with red. The lip is white and covered with down, and so beautifully balanced that the least movement causes it to rock. When the flower stems are of sufficient length they should be tied to neat sticks. The main point to be observed in the culture of this handsome species, is to give it plenty of moisture throughout the growing season, with an abundance of pure fresh air. It delights in plenty of overhead syringing, which will also help to keep away insect pests of all descriptions. The leaves should be sponged regularly

every fortnight, and pure rain water, which in winter should be tepid, must only be used for this purpose and for direct application to the plants.

For compost use a mixture of polypodium fibre, sphagnum moss, and oak leaves, and place a layer of living sphagnum on the surface. Keep the plants well shaded until they have become quite re-established in their new compost; afterwards they will stand a fair amount of sunlight.

When the plant has become too large for the pot in which it is growing, remove it to one of larger size, the operation being carried out directly a fresh growth is starting, after its period of rest. If it is desired to increase the stock, divide it when repotting, as it is remarkably free growing, and each portion will soon make a fresh growth.

As regards the most suitable amount of heat for this Orchid, 50° Fahr. must be regarded as the lowest winter temperature, with a proportional rise in spring, 65° Fahr. being the average autumn and lowest summer temperature.

ALWYN HARRISON.

This interesting Bulbophyllum was originally exhibited by Messrs. Sander, and received a First-class Certificate from the R.H.S., in June, 1890, under the name of Sarcopodium Godseffianum, being dedicated to Mr. J. Godseff, Messrs. Sander's able manager. It is said to have been introduced from the South Philippines. It was then described and figured as Bulbophyllum Godseffianum (*Gard. Mag.*, 1890, p. 540, with fig.). For our figure we are indebted to Messrs. Mansell & Hatcher, Rawdon, Leeds.

Though generally cultivated under the name of B. Godseffianum, we do not know how it can be distinguished from the earlier B. Dearei (Reichb. f. in *Flora*, 1888, p. 156). That originally appeared in 1883, being exhibited at South Kensington by Lt.-Col. Deare, of Englefield Green, as Sarcopodium Dearei, when it was described and figured (*Gard. Chron.*, 1885, ii. p. 109, fig. 17). In May, 1890, it was exhibited by the late Baron Schröder, and received an Award of Merit, when it was said to be a native of Borneo. It was also introduced from Borneo by Messrs. Linden, and figured in *Lindenia*, viii. t. 345.

R. A. R.

SATYRIUM CORÜFOLIUM, says Mr. Bolus (*Orch. Cape Peninsula*, page 124), is one of the commonest species on the Peninsula, and one of the longest in flower. It is especially abundant on the Flats, where insatiable flower-gatherers in spring carry off large bundles of the scapes. The flowers are a clear bright orange, more or less varying to or tinged with a flame-coloured red. The colour seems constant, and easily distinguishes this species from any other, though I have seen plants from Diep River which seemed to be hybrids between this species and S. carneum, and which had salmon-coloured flowers only slightly modified in structure.

PAPHIOPEDILUM AUREUM SURPRISE.

The annexed figure represents a plant of the interesting and beautiful Paphiopedilum aureum var. Surprise, with six flowers, from the collection of W. P. Burkinshaw, Esq., Hessle, Hull, gardener Mr. J. T. Barker. It forms a charming picture, and Mr. Barker, in sending the photograph. remarks that he believes it to be one of the best plants in cultivation. It is one of the remarkable batch of seedlings raised by M. Jules Hye, Ghent, from P. Spicerianum and P. Sallieri Hyeanum, and has clear greenish yellow flowers with the upper half of the dorsal sepal white.

Fig. 14. Paphiopedilum aureum Surprise.

Other seedlings from the same batch showed the most remarkable diversity in colour and markings, and a large number of them were originally exhibited under distinct names, though they were afterwards considered as varieties of one. In fact, nearly forty synonyms of P. aureum are enumerated in the *Orchid Stud Book*. Six very distinct forms are figured by M. Goossens in the *Dictionnaire Iconographique des Orchidées*, the present one among the number.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING was held at the Royal Horticultural Hall, Vincent Square, Westminster, on February 28th last, when many fine groups were staged, eight of which received medals; one Award of Merit and five Botanical Certificates being also given.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. Gurney Wilson, F. Menteith Ogilvie, A. A. McBean, T. Armstrong, J. E. Shill, J. Charlesworth, J. Cypher, W. H. Hatcher, W. P. Bound, A. Dye, W. H. White, C. H. Curtis, J. Wilson Potter, W. Bolton, J. S. Moss, and Walter Cobb.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. White), staged a group of interesting Orchids, including well-flowered plants of the rare Catasetum scurra, Pleurothallis scapha, Scaphyglottis Behrii, Maxillaria variabilis, Masdevallia Shuttryana var. Chamberlainii, and three others which received Botanical Certificates.

E. Roberts, Esq., Park Lodge, Eltham (gr. Mr. Carr), received a Silver Banksian Medal for a pretty group of Cypripediums, including C. Emile Cappe, a fine form which has received a First-class Certificate at Paris, C. nitens Prince Olaf, a dark form of C. St. Albans, C. Euryades, C. beechense Sander's var., C. Sir Redvers Buller, and other good things.

Mrs. Norman Cookson, Oakwood, Wylam-on-Tyne (gr. Mr. H. J. Chapman), sent Odontioda Bradshawiæ superba, a handsome form, Odontoglossum percultum purpureum, a fine purple flower with a white lip, and Dendrobium oakwoodiense, a hybrid from D. Haywoodii, having broad rose-purple petals and a dark blotch on the lip.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. Davis), sent the handsome Odontioda keighleyensis Fowler's var., carrying a panicle of about fifty flowers.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. H. G. Day), showed Odontioda Floryi (C. Nœtzliana × O. Andersonianum), having reddish orange flowers.

H. S. Leon, Esq., Bletchley Park (gr. Mr. Cooper), sent a series of good Cypripediums raised in the collection.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black), sent a good form of Sophrocattleya warnhamiensis, Odontioda Bradshawiæ, Dendrobium Austinii, D. nobile Thwaites' var., D. chessingtonense, and D. mirandum, a handsome hybrid from D. Wiganiæ × Thwaitesiæ.

F. W. Moore, Esq., Royal Botanic Garden, Glasnevin, sent flowers of the handsome Maxillaria Lindeniæ, Cœlogyne sulphurea, C. perakensis and C. Huettneriana, Ione scariosa, Pleurothallis rhombipetala, and P.

platystachys, the latter a very curious species in which both the inflorescence and flowers are flattened.

Messrs. Armstrong & Brown, Tunbridge Wells, staged a fine group, including a handsome specimen of Odontoglossum Rolfeæ with a panicle of over fifty flowers, O. cristatum, two good O. spectabile, O. crispum, Odontioda Bradshawiæ, forms of Cypripedium aureum, Brassolælia Helen, Dendrobium Artemis, Masdevallia Schrœderiana, Cymbidium Woodhamsianum, a few Cattleyas, &c.

Messrs. Charlesworth & Co., Haywards Heath, received a Silver Flora Medal for a fine group, consisting of many excellent Odontoglossums and Læliocattleyas, Zygocolax Charlesworthii, Sophrocatlælia Marathon, Brassocattleya Cliftoni, B.-c. Veitchii Queen Alexandra, Coelogyne sparsa, Cypripedium Rossetti, a very fine plant of Phaius Norman aurea, Miltonia Warscewiczii, M. Bleuana nobilior, Læliocattleya bella alba, L.-c. Doris, and several charming Odontiodas, with other good things.

Messrs. Sander & Sons, St. Albans, also received a Silver Flora Medal for a fine group, including Odontoglossum excellens, O. Edwardii, O. percultum, and many other beautiful Odontoglossums, Renanthera Imschootiana, Cymbidium Veitchii and Holfordianum, Cattleya Thayeriana and some good C. Trianæ, Catasetum macrocarpum, the beautiful Miltonia St. Andre, Phalænopsis Stuartiana, and some good Cypripediums.

Messrs. Mansell & Hatcher, Rawdon, Leeds, received a Silver Banksian Medal for a select group, including Odontioda Zephyr (C. Nœtzliana × O. Wilckeanum), Dendrobium amethystoglossum and other Dendrobiums, a good Miltonia Bleuana, Phaius flavus, the clear yellow Oncidium ampliatum concolor, and two others which gained Botanical Certificates.

Messrs. James Cypher & Sons, Cheltenham, received a Silver Banksian Medal for a pretty group, including some good Læliocattleya Cappei, Odontoglossum excellens and others, some well-flowered Lycaste Skinneri, Cypripedium aureum Surprise, C. a. Hyeanum, C. Beeckmanii, the fine C. enfieldense superbum, C. Graceæ, C. Bridgei, and numerous others.

Messrs. Stuart Low & Co., Enfield, received a Silver Banksian Medal for a bright group, including some well-flowered Dendrobium Wardianum, Odontoglossum cordatum Low's var., O. sceptrum Masereelianum, Cattleya Enid and C. Schrœderæ White Queen, the latter white with a flush of pink on the lip, some good Lycaste Skinneri, Cypripedium Harrisianum albens, Bulbophyllum cupreum, Saccolabium bellinum, Dendrobium atroviolaceum, Angræcum sesquipedale, &c.

Messrs. J. & A. A. McBean, Cooksbridge, also received a Silver Banksian Medal for a pretty group, containing several well-grown Odontoglossum crispum, Cypripediums, some brilliant Epiphronitis Veitchii, with a fine plant of Cymbidium insigne in the centre.

Messrs. Hassall & Co., Southgate, sent Cypripedium aureum Hyeanum, and a good form of Cattleya Trianæ.

Mr. A. W. Jensen, Lindfield, Haywards Heath, sent a few good forms of Cattleya Schrœderæ.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent Cypripedium Franconia (callo-Rothschildianum × callosum Sanderæ), a good C. Maudiæ, C. villosum auriferum, C. aureum virginale, Cattleya Trianæ alba, and several other good forms.

Messrs. T. Rochford & Sons, Broxbourne, Herts, sent some good Sophronitis grandiflora, with Odontoglossum Thompsonianum, and a good O. loochristiense.

Mr. A. Schleigel, Lewes, sent Brassocattleya Mrs. J. C. Hirst (B. nodosa × C. Trianæ), showing much of the influence of the former parent.

Mr. J. Stevenson, Alton Manor Gardens, near Derby, sent cut flowers of a seedling Cypripedium.

Messrs. James Veitch & Sons sent a good Cymbidium, which is mentioned under Awards.

AWARDS OF MERIT.

CYMBIDIUM VEITCHII (C. Lowianum × C. Devonianum).—A striking hybrid, bearing a spike of 14 flowers, the sepals and petals green, tinged with brown, and the front lobe of the lip reddish brown. Exhibited by Messrs. James Veitch & Sons, Chelsea. The plant was afterwards named C. langleyense, the name C. Veitchii being already in use.

BOTANICAL CERTIFICATES.

DENDROBIUM DELICATUM.—An Australian plant, supposed to be a natural hybrid between D. speciosum and D. Kingianum, whose history is given at page 88 of our sixteenth volume. Exhibited by Sir Trevor Lawrence, Bart.

ERIA LANATA.—An Indian species, bearing spikes of greenish yellow, very hairy flowers. Exhibited by Messrs. Mansell & Hatcher.

GROBYA FASCIFERA.—A Brazilian Orchid, having dwarf spikes of brown and yellow flowers. Exhibited by Messrs. Mansell & Hatcher.

MAXILLARIA CALLICHROMA.—A pretty species, most like M. luteo-alba, but having smaller flowers. Exhibited by Sir Trevor Lawrence, Bart.

PLATYCLINIS GLUMACEA VALIDA.—A strong-growing plant, having broader leaves than the type. Exhibited by Sir Trevor Lawrence, Bart.

At the meeting held on March 14th there was a very fine display of Orchids, including eight medal groups, while one First-class Certificate and four Awards of Merit were given.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. James O'Brien (Hon. Sec.), Sir Jeremiah Colman, Bart., W. Cobb,

R. G. Thwaites, Gurney Wilson, F. W. Moore, A. A. McBean, T. Armstrong, J. E. Shill, J. Cypher, W. H. Hatcher, A. Dye, H. G. Alexander, W. H. White, H. Ballantine, W. Bolton, F. M. Ogilvie, W. P. Bound, J. Charlesworth, J. S. Moss, and R. Brooman White.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gr. Mr. J. Collier), staged a very interesting group, to which a Silver Flora Medal was awarded. It contained the handsome Dendrobium Lady Colman, D. Princess Patricia of Connaught, D. melanodiscus, D. Margery Tyrrel Giles, the rare D. Hodgkinsoni, and the remarkable Australian D. cucumerinum, with leaves like little gherkins and a few green and brown flowers, Odontoglossum Lady Roxburgh (cirrhosum × percultum), with very acuminate spotted segments, Pholidota gracilis, bearing numerous racemes of small white flowers, P. chinensis, a well-flowered Masdevallia triangularis, Maxillaria sanguinea, M. flava, Lycaste Lucianii, L· Balliæ, and var. Mary Gratrix.

H. A. Inness, Esq., Croft Spa, Yorks., sent Odontoglossum crispum Monkend var., a handsomely blotched form, Cypripedium villosum Stewartii, and a Læliocattleya mentioned under Awards.

R. Brooman White, Esq., Arddarroch, Garelochhead (gr. Mr. J. Smith), sent a spike of a pretty white Odontoglossum crispum, and two of the handsomely blotched O. c. Mercedes.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent Odontoglossum Titania (Queen Alexandra × crispum Leonard Perfect), a large and handsome hybrid, having the sepals and petals closely blotched with purple-red, and primrose yellow at the tips, and the lip white, with a yellow crest, and a large purple blotch in front.

The Rev. J. Crombleholme, Clayton-le-Moors, sent Cypripedium Johnsonii, a fine hybrid from C. Rothschildianum and C. philippinense.

The Hon. Mrs. Foley, Packham, Fordingbridge, sent a fine specimen of Ansellia confusa, bearing many panicles of flowers, Megaclinium maximum, Eulophia lurida, E. gracilis, and a plant of Lissochilus purpuratus.

John S. Moss, Esq., Wintershill Hall, Bishop's Waltham (gr. Mr. Kench), sent two interesting hybrid Odontoglossums.

Major E. C. Rogerson, Harpendon, showed Odontoglossum eximium Ethel Rogerson, a richly-coloured form.

J. B. Seatle, Esq., Fairfield, Putney (gr. Mr. Paice), sent a hybrid Odontoglossum with spotted flowers.

G. Hamilton-Smith, Esq., Church End, Finchley (gr. Mr. Coningsby), sent two fine forms of Lycaste Skinneri, Odontoglossum Edwardii, O. Marietta (Lambeauianum × Rolfeæ), O. harvengtense, Lælia flava, Cymbidium Veitchii, C. Ballii, &c.

Lt.-Col. Sir G. L. Holford, K.C.V.O., sent a handsome Cymbidium which is mentioned under Awards.

Messrs. Charlesworth & Co., Haywards Heath, staged a beautiful group of choice things, to which a Silver-gilt Flora Medal was awarded. The centre consisted of a number of well-grown Phaius Norman, supported by numerous Odontoglossum crispum, the charming O. Sylvia, O. armainvillierense xanthotes, O. Wilckeanum Imperator, and numerous others, Dendrobium infundibulum, the handsome Brassocattleya Veitchii King Edward VII., Oncidium concolor, Zygocolax Charlesworthii, Læliocattleya Myra, Boylei, and other Læliocattleyas, Odontioda Bohnhoffiæ, heatonensis, Lutetia, and Charlesworthii, some good Cattleyas, and a handsome Odontoglossum which is mentioned under Awards.

Messrs. Sander & Sons, St. Albans, received a Silver Flora Medal for a fine group, including Cattleya jucunda (labiata × Schrœderæ), a handsome hybrid, Dendrobium nobile virginale, D. Devonianum, Dearei and Brymerianum, Chysis Chelsoni, Schomburkia rosea, Læliocattleya Firebrand (L.-c. highburiensis × C. Trianæ), L.-c. Myra, Cirrhopetalum cæspitosum, Odontoglossum elegantius, and many others, Cypripedium vill-exul, Odontioda Bradshawiæ, &c., with two other handsome hybrids which secured awards.

Messrs. Armstrong & Brown, Tunbridge Wells, received a Silver Flora Medal for a fine group, including a well-grown specimen of Odontoglossum nævium with seven spikes, some good O. crispum, amabile, Rolfeæ and Ossulstonii, the handsome Dendrobium nobile Armstrongiæ and many others, Masdevallia Chimæra Roezlii, Cypripedium Maudiæ giganteum, a very pretty hybrid between C. Godefroyæ leucochilum and C. Euryades, with many other fine things.

Messrs. James Cypher & Sons, Cheltenham, received a Silver Flora Medal for a fine group of Dendrobiums, Odontoglossums, Cypripediums, &c., noteworthy among them being Dendrobium Juno, D. Williamsoni, D. teretifolium, D. nobile Cooksonianum, Cypripedium aureum Surprise, C. Bridgei, Epidendrum Boundii × xanthinum, with reddish orange flowers, Masdevallia torta, Angræcum sesquipedale, the brilliant Sophrocattleya Saxa superba with three flowers, S.-c. Wellsiæ, Leptotes bicolor, Ada aurantiaca, Stanhopea eburnea, and the brilliant Odontioda keighleyensis.

Mr. A. W. Jensen, Lindfield, Haywards Heath, received a Silver Banksian Medal for a fine group of Cattleya Schrœderæ, C. Mendelii, Odontoglossum crispum, O. triumphans, and Oncidium Krameri.

Messrs. Stuart Low & Co., Enfield, received a Silver Banksian Medal for a fine group, including some good Dendrobium Wardianum and D. crassinode, D. aureum, D. atroviolaceum with five spikes, Masdevallia Schrœderiana and triangularis, Cirrhopetalum Mastersianum and picturatum, Cypripedium vill-exul, and others, some brilliant Læliocattleyas, Miltonia Bleuana nobilior, &c.

Messrs. J. & A. A. McBean, Cooksbridge, were also awarded a Silver Banksian Medal for a good group, including examples of Cymbidium eburneum and Veitchii, some good Cattleya Schrœderæ, Odontoglossum crispum and others, with good examples of Epiphronitis Veitchii.

Mr. W. Bolton, Warrington, sent a spike of a Dendrobium of the atro-violaceum group, which had been imported with D. Ashworthiæ.

FIRST-CLASS CERTIFICATE.

ODONTOGLOSSUM JEANETTE (Rossii rubescens × amabile).—A very handsome hybrid which is described and figured on page 113. Exhibited by Messrs. Charlesworth & Co.

AWARDS OF MERIT.

CYMBIDIUM ALEXANDERI (Veitchii × insigne).—A very pretty hybrid, with broad cream-white sepals and petals, tinged and somewhat lined with pink, and the lip white, blotched with rose in front, and somewhat striped on the side lobes. Exhibited by Lt.-Col. Sir G. L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander).

CYMBIDIUM GOTTIANUM (eburneum × insigne).—Another handsome thing having white flowers, with some purple spotting on the front lobe of the lip, and some similar lines on the side lobes. Exhibited by Messrs. Sander & Sons.

LÆLIOCATTLEYA DOMINIANA MONKEND VAR. (L. purpurata × C. Dowiana).—A fine form, with purplish lilac sepals and petals, and a deep purple-crimson lip, with some yellow veining in the throat. Exhibited by H. A. Inness, Esq.

ODONTOGLOSSUM MIRUM BRUGENSE (crispum blotched var. × Wilckeanum).—A finely-shaped hybrid, having the sepals and petals heavily blotched with red-purple on a white ground. Exhibited by Messrs. Sander & Sons.

AT the meeting held on March 28th nine groups were distinguished by the award of medals, while one First-class Certificate and two Awards of Merit were also given.

Orchid Committee present:—J. Gurney Fowler, Esq., in the Chair, and Messrs. J. O'Brien (Hon. Sec.), Harry J. Veitch, Gurney Wilson, R. G. Thwaites, F. M. Ogilvie, F. Sander, T. Armstrong, Walter Cobb, J. Cypher, W. H. Hatcher. A. Dye, W. H. White, H. Ballantine, J. S. Moss, W. Bolton, C. Cookson, Stuart Low, de Barri Crawshay, and H. G. Alexander.

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park (gr. Mr. Collier), staged a fine group, including several beautiful examples of Odontoglossum Thompsonianum, O. Queen of Gatton, and others, Cœlogyne Sanderæ, the rare Dendrobium Beckleri, several well-bloomed Epidiacrium Colmanii, Diacattleya Colmaniæ, Diacattlælia Gatton Rose, and a fine Odontioda, which is mentioned under Awards.

Mrs. Norman Cookson, Oakwood, Wylam (gr. Mr. H. J. Chapman), also received a Silver Flora Medal for a beautiful group, including the fine Odontioda Cooksoniæ Oakwood var., and several other Odontiodas, a large white and a prettily spotted Odontoglossum crispum, both out of the same seed-pod, some good forms of O. percultum, O. splendidissimum, O. eximium, O. excellens, O. Pescatorei Cooksonianum, the handsome O. Titania (O. crispum Leonard Perfect × O. Queen Alexandra), and Cypripedium Northumbria (Chamberlainianum × Godefroyæ leucochilum).

S. Larkin, Esq., The Ridgways, Haslemere (gr. Mr. Hale), received a Silver Banksian Medal for a good group, including several Cattleya Trianæ, Saccolabium violaceum Harrisonianum, two good Cymbidium Lowianum, examples of Phalænopsis Schilleriana, Vanda tricolor, V. Amesiana, Dendrobiums, &c.

M. Henri Graire, Amiens, and Sir Trevor Lawrence, Bart., sent handsome Orchids, which are mentioned under Awards.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent Odontoglossum Leonidas (triumphans Lionel Crawshay × Hallio-crispum), a yellow flower of good shape, with light brown markings.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. J. Davis), sent Odontioda Lambeauiana (Odontoglossum Lambeauianum × Cochlioda Nœtzliana), a handsome rosy red hybrid, and Odontoglossum Wilckeanum J. Gurney Fowler.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. H. Day), showed Sophrocatlælia Olive Fairlawn var. (S.-l. Psyche × C. Enid), a pretty rosy red flower, with some yellow veining on the lip.

H. S. Leon, Esq., Bletchley Park (gr. Mr. G. Cooper), sent Cypripedium Deedmanianum Bletchley Park var., a well-coloured form bearing a three-flowered inflorescence.

Leopold de Rothschild, Esq., Gunnersbury Park, Acton (gr. Mr. J. Hudson), sent a good plant of Dendrobium Wardianum candidum, bearing 52 flowers.

Baron Bruno Schröder, Egham (gr. Mr. Shill), sent a magnificent spike of Odontoglossum Wilckeanum Schrœderianum, bearing fourteen flowers.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black), sent two good forms of Odontoglossum Clytie (Edwardii × Pescatorei), with flowers of both parents.

Messrs. Charlesworth & Co., Haywards Heath, staged a very fine group, to which a Silver-gilt Flora Medal was awarded. It contained some beautiful examples of Phaius Norman, a fine series of Odontoglossums, noteworthy among them being a richly-coloured O. armainvillierense raised from O. Pescatorei Charlesworthii × O. crispum Graireanum, a very fine O. a. xanthotes, O. Ianthe (spectabile × armainvillierense), O. Jasper,

Miltonia Warscewiczii, Brassocattleya Veitchii and var. Queen Alexandra, a fine lot of Dendrobium infundibulum, Cynorchis kewensis, Cymbidium insigne, Odontioda Craveniana, O. Diana, O. Bradshawiæ, a fine variety of O. St. Fuscien, Miltonia spectabilis, Saccolabium bellinum, Lycaste gigantea, Miltonia vexillaria, &c.

Messrs. Armstrong & Brown, Tunbridge Wells, also received a Silver Flora Medal for a fine group, containing some beautiful Dendrobium nobile virginale, D. chessingtonense, and other Dendrobiums, a fine specimen of Odontoglossum nævium, O. percultum, Adrianæ, Wilckeanum, Ossulstonii, some good O. crispum, &c., Læliocattleya Mrs. Temple, L.-c. Myra, Lycaste Skinneri, Cirrhopetalum picturatum, Cymbidium Woodhamsianum, Lælia Gwennie, with some showy Cattleyas and Sophrocattleyas, Brassocattleya Leemanniæ, &c.

Messrs. Sander & Sons, St. Albans, received a Silver Flora Medal for a fine group, including some good forms of Odontoglossum eximium, O. amandum citrinum, O. crispum Prince George, a handsomely-blotched seedling, and many others, Batemannia peruviana, Houlletia Sanderi, Scuticaria Hadwenii, Warscewiczella discolor, Bletia catenulata, Cattleya Lueddemanniana and some good C. Schrœderæ, Chysis bractescens, Brassocattleya Thorntoni and Cordelia, with many other good things.

Messrs. Hassall & Co., Southgate, received a Silver Banksian Medal for a neat group, including some good Cymbidium Veitchii concolor, Odontoglossum Rolfeæ, Lycaste Skinneri alba, Dendrobium Brymerianum, Oncidium concolor, a nice series of the orange-coloured Læliocattleya Ballii, and many other interesting things.

Mr. E. V. Low, Vale Bridge, Haywards Heath, received a Silver Banksian Medal for a select group, including some good Cattleya Trianæ and C. Schrœderæ, C. Parthenia Prince of Wales, Dendrobium Luna, D. pallens, D. chessingtonense, Odontoglossum crispum Lucianii, Cypripedium aureum virginale, and others.

Messrs. Stuart Low & Co., Bush Hill Park, received a Silver Banksian Medal for a good group, including many well-flowered Dendrobiums, Odontoglossum blandum and others, the rare Angræcum Leonis, Odontioda Bradshawiæ, Thwaitesiæ, and Zephyr, Renanthera Imschootiana, Cattleya Schrœderæ and others, Cypripedium vil-exul, and other good Cypripediums.

Mr. W. Bolton, Warrington, sent a plant of Dendrobium macrophyllum, with inflorescences of D. atroviolaceum and D. Ashworthiæ, all being out of the same importation, D. Bancroftii, with seven spikes, and Odontioda Boltoni (C. Nœtzliana × Odontoglossum Vuylstekei), a most beautiful seedling bearing its first flower, which was $2\frac{3}{4}$ inches across, and mottled with rosy-scarlet on a light yellow ground.

FIRST-CLASS CERTIFICATES.

ODONTIODA VUYLSTEKEÆ VAR. LADY COLMAN (C. Nœtzliana × O. Pescatorei).—A very fine form, and remarkable for having flowers of a uniform dark scarlet-red. Exhibited by Sir Jeremiah Colman, Bart.

AWARDS OF MERIT.

ODONTIODA IGNEA (C. Nœtzliana × O. Lindeni).—A handsome hybrid, having a much branched inflorescence of small flowers, most like the Odontoglossum parent in shape, but dark scarlet-red in colour. Exhibited by M. Henri Graire, St. Fuscien, Amiens, France.

ODONTOGLOSSUM SWIETENICOLOR (Wilckeanum × Vuylstekei).—A striking hybrid, bearing a strong inflorescence of dark red-brown flowers, margined and tipped with light yellow, and the lip with some brown markings round the yellow crest. The name is given in allusion to the mahogany-coloured flowers. Exhibited by Sir Trevor Lawrence, Bart.

MANCHESTER AND NORTH OF ENGLAND.

At the meeting held on February 16th there was only a moderate display of plants, and the Committee was present as follows : Messrs. E. Ashworth (Chairman), R. Ashworth, Thorp, Ward, Cowan, Keeling, Holmes, Arthur, Crombleholme, Cypher, Sander, and Weathers (Hon. Sec.).

Messrs. Cypher & Sons, Cheltenham, staged a very fine group, which contained several fine white forms of Lælia anceps and choice Cypripediums (Silver-gilt Medal).

J. H. Craven, Esq., Keighley (gr. Mr. Corney), exhibited Odontoglossum Jasper, a hybrid between O. crispum × O. amabile. The Committee desired to see the plant again. Sophrocatlælia Marathon, from the same collection, received an Award of Merit.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), exhibited Cypripedium fulshawense Plumpton Hall var., quite distinct from the type in form and much paler in its markings.

S. Gratrix, Esq., Whalley Range, Manchester (gr. Mr. Brown), was awarded a First-class Certificate for Cypripedium Duchess of Connaught, a hybrid from C. Maudiæ × C. Sanactæus, and an Award of Merit for C. Prince Albert.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), exhibited Lycaste Skinneri var. Alice McCartney, which received an Award of Merit.

Rev. J. Crombleholme, Clayton-le-Moors, exhibited Cypripedium Youngiæ, a cross between C. bellatulum and C. Hookeræ, which was given an Award of Merit.

W. Thompson, Esq., Stone (gr. Mr. Stevens), exhibited a fine plant of Cypripedium chrysotoxum, which was awarded a Cultural Certificate.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), received Awards of

Merit for Cypripedium Queen of Italy Holden's var., Odontoglossum Sambo, and O. Purple Monarch.

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), exhibited Odontoglossum Ashworthianum, a hybrid between O. Uroskinneri × O. cirrhosum, a pretty and interesting plant. O. highfieldense received a similar award.

Other exhibitors were Messrs. E. V. Low, Haywards Heath; J. Robson, Altrincham; A. J. Keeling & Sons, Bradford, and W. Shackleton, Bradford.

There was an excellent display of Orchids at the meeting held on March 2nd, the finest exhibit being shown by Z. A. Ward, Esq., Northenden, (gr. Mr. Weatherby). This exhibit included twelve splendid specimens of Dendrobium Wardianum, the plants being freely flowered. Cypripedium Beryl Ward's var. and Odontoglossum crispo-Harryanum var. Emperor each received First-class Certificates (Gold Medal).

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was awarded a Silver Medal for a collection of Cattleyas, Læliocattleyas, and other Orchids.

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), received an Award of Merit for Læliocattleya bella var. alba.

Mr. J. Birchenall, Alderley Edge, exhibited Miltonia Endresii and Stanhopea Wardii var. aurea, a Botanical Certificate being awarded to the former, and an Award of Merit to the latter plant.

Messrs. Sander and Sons, St. Albans, were awarded a Silver Medal for a group, in which were several choice hybrid Odontoglossums and Odontiodas. Cattleya Trianæ var. Ralph Sander received an Award of Merit.

Messrs. Charlesworth & Co., Haywards Heath, staged a bright group, in which we noticed many Cattleyas (Silver Medal).

Messrs. Cypher & Sons, Cheltenham, were awarded a Silver Medal for a group, consisting of good Cypripediums, Dendrobiums, and white forms of Lælia anceps.

Mr. E. V. Low, Vale Bridge, Haywards Heath, exhibited three handsome forms of Cattleya Trianæ.

Other exhibitors were Mr. W. Shackleton, Bradford: Mr. Hindley, Bradford; and Messrs. A. J. Keeling & Sons, Bradford.

There was a good display of plants at the meeting held on March 16th and several meritorious groups were staged. Committee present: E. Ashworth (Chairman), H. Thorp, Z. A. Ward, H. Arthur, A. J. Keeling, W. Holmes, W. Stevens, J. Cypher, and P. Weathers (Hon. Sec.).

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), was again represented by a good collection of Odontoglossums, remarkable for the fine spikes produced and the wide range of varieties. A Silver-gilt

Medal was awarded to the group, and a First-class Certificate to O. Phœbe Ward's var.

Mrs. S. Gratrix, Whalley Range (gr. Mr. Brown), was awarded a First-class Certificate for Odontoglossum illustrissimum var. Ameliæ, a richly-coloured hybrid of great merit.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was awarded a Silver Medal for a group of Cattleyas, in which were some good forms of C. Schrœderæ, C. Trianæ, &c.

W. Thompson, Esq., Stone (gr. Mr. Stevens), exhibited a good hybrid Cypripedium, called "Our Queen," a well-balanced flower with a good dorsal showing some amount of Leeanum as one of its parents (Award of Merit).

Messrs. Sander & Sons, St. Albans, staged a choice group of plants, in which were several Odontiodas and some good Cypripediums (Silver Medal).

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), received a Special Vote of Thanks for a good collection, a fine plant of Cymbidium eburneo-Lowianum with several good spikes being particularly noticeable, also about a dozen plants of Cypripedium callosum Sanderæ.

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), was awarded a Silver Medal for a group of Odontoglossums, in which were some choice hybrids.

Messrs. W. Bull & Sons, Chelsea, were awarded a Silver Medal for a group which contained a set of new Odontoglossum hybrids, none of which, however, came before the Committee.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), was awarded a First-class Certificate for Dendrobium × plumptonense, a hybrid between D. Cybele nobilior × D. nobile nobilius, a fine bold flower of pleasing colour. In the same collection was a fine plant of Odontoglossum Rolfeæ, to which a Cultural Certificate was awarded.

Messrs. Charlesworth & Co., Haywards Heath, exhibited a few good Odontoglossum hybrids.

J. H. Craven, Esq., Keighley (gr. Mr. Corney), exhibited Odontioda keighleyensis var. Brilliant (Award of Merit).

J. J. Holden, Esq., Southport (gr. Mr. Johnson), sent Cattleya speciosissima var. Stanleyii called Holden's var., but not recognised as being distinct.

Messrs. Keeling & Sons, Bradford, were awarded a Bronze Medal for a miscellaneous group, and Mr. J. Robson a Vote of Thanks for a small display.

A report of a meeting of the North of England Horticultural Society is unavoidably held over, with some other matters, owing to pressure on our space.

THE INTERNATIONAL HORTICULTURAL EXHIBITION.

The first provisional Schedule of the great International Horticultural Exhibition to be held in the grounds of the Royal Hospital, Chelsea, from May 22nd to 30th, 1912, has been issued, and contains many classes devoted to Orchids. In the division devoted to new plants are three open classes for a new species of Orchid, a new variety, and a new hybrid, which have not been previously exhibited. The section devoted to Orchids contains 29 classes, all but eight of which are open, and comprise classes for 12 and 25 Cattleyas, Lælias, and Brassavolas, and their hybrids, also for a group of the same not exceeding 100 square feet. the last being repeated in a class limited to whites or whites with coloured lips. Other classes for groups of 100 feet square are set apart for Cypripediums, Miltonias, Vandas and allied genera, and for ornamental-leaved Orchids, the latter not necessarily in flower, while Disas and allies, and Masdevallias are limited to 50 feet. There are also classes for 100 Orchids, for 12, for 6, for one specimen Orchid, for British Orchids, and for Hardy terrestrial Orchids, British excluded. The larger classes comprise Dendrobiums, Odontoglossum species and varieties, and Odontoglossum hybrids, each not exceeding 200 square feet, also Orchids of Botanical interest, not necessarily in flower, 220 feet, and Cochlioda hybrids, without limit. Four classes are in duplicate for Amateurs and Nurserymen, namely the best and most varied group, not exceeding 500 feet, the best group of species and varieties, not exceeding 200 feet, a similar class for hybrids, and the best 50 Orchids in not less than 25 species, varieties and hybrids. Further particulars will appear later, and we anticipate a magnificent display on this occasion.

ODONTOGLOSSUMS FROM WALTON GRANGE.

Some interesting seedling Odontoglossums are sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens. There are two forms of O. Clytie (Edwardii × Pescatorei), from the same seed-pod, one of them, from the plant shown at the R.H.S. meeting on January 31st, having a lilac-coloured ground heavily blotched with dark purple, the other rather larger and having more solid purple blotches. This is said to open with a white ground, afterwards turning lilac. One from O. Pescatorei × Ossulstonii has most of the Pescatorei shape, and has very small purple spots on the segments. A form of O. amabile (crispum × spectabile), has yellowish white ground, and copious light crimson-coloured markings, and should develop into a very beautiful thing. A stray seedling has light yellow ground colour, and pretty similar stripes and markings, so may be from the same cross. O. Pescatorei × Andersonianum is most like a light form of the latter in shape and markings, but has a somewhat pandurate

lip, and this, with the clear ground colour and broad denticulate column wings, shows the Pescatorei influence. Lastly we have a yellow form of O. crispum which was out on January 31st and has not faded at all. It is the result of crossing two yellow crispums, and should develop into a very fine thing.

ORCHIDS IN SEASON.

A VERY handsome Odontoglossum has been sent from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury, which flowered out of a batch of O. crispum, and Mr. Rogers remarks that both he and Mr. Wrigley think it is a variety of O. triumphans, though they have never seen one like it before. It is like a clear light yellow O. triumphans, with a small spot on some of the sepals, but none on the petals or lip. The shape and column wings are precisely those of O. triumphans, and we regard it as a very distinct and beautiful variety of that species.

Several interesting flowers are sent from the collection of G. Hamilton-Smith, Esq., Finchley, by Mr. Coningsby. They include a four-flowered inflorescence of Cymbidium Ballii, C. Veitchii, C. Lowianum, and a plant marked as derived from C. Tracyanum and C. elegans, though we think the parentage requires confirmation. Odontoglossum Marietta was obtained as an unflowered seedling from the Earl of Tankerville's collection, and has the sepals much blotched and the petals spotted with purple, being larger than one previously sent, but not so good in shape. Another is marked as a seedling from O. excellens × loochristiense, and has bright yellow flowers blotched with brown. The column wings are entire as in the former parent. Lastly must be mentioned a flower of the handsome Lycaste Skinneri var. Mrs. G. Hamilton-Smith, which has been previously noted, and which is said to have flowered better than ever this year.

Flowers of two very diverse forms of Odontoglossum Maritana (sceptrum × Rolfeæ) are sent from the collection of John S. Moss, Esq., Wintershill Hall, Bishops Waltham. One is compared with a yellow Pescatorei, the other with a yellow Rolfeæ, a comparison justified by resemblances in shape. The original form was described at page 286 of our last volume, the name being inadvertently given as O. Mauritania.

Flowers of Lælia Jessica, a very pretty little hybrid from L. Jongheana × L. Coronet, are sent from the collection of E. F. Clark, Esq., Chamonix, Teignmouth. They are comparable with L. Degeestiana (Jongheana × flava), having cream white sepals and petals, and a yellow lip with some dark lines on the side lobes. The Jongheana character comes out very clearly, but the flower is much smaller. The seedlings are about seven years old.

ORCHID NOTES AND NEWS.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during April, on the 11th and 25th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on April 13th and 27th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 4 o'clock p.m.

The Report of the Council of the Royal Horticultural Society for 1910 contains the following:—

"Orchid Nomenclature.—A report on Nomenclature, summarising the opinions of experts and hybridists at home and abroad, was sent from the Council to the Brussels International Horticultural Congress, which met in April, 1910. Dr. Rendle, F.R.S., and Mr. E. A. Bowles, M.A., represented the Society at the Congress, and it is gratifying to know that the Report of the Society was approved in some of its most important details. The Report is now awaiting final confirmation by the next International Botanical Congress, before being finally adopted for International use."

"Several recent valuable gifts of Orchids, and the necessity of giving the students a proper training in the cultivation of this very popular class of plants, made it essential to erect an Orchid House."

Among the list of presents we notice Orchids from Baron Bruno Schröder and Messrs. Sander.

Messrs. Stuart Low & Co., Enfield, write that after March 31st, 1911, Mr. F. W. Ashton will cease to represent them in the Orchid interest.

Mr. F. W. Ashton writes that on and after April 1st, 1911, he will establish himself as a Horticultural Commission Agent at 116, Hewitt Road, Harringay, specialising in Orchids and Carnations.

The Orchid World.—We have received together the first five numbers of a new work bearing the above title, edited by Mr. Gurney Wilson, F.L.S., the first number being dated October, 1910. The first number contains an illustrated article on the collection of Sir Trevor Lawrence, Bart., on Vanda cœrulea, by Mr. H. G. Alexander, Rare Native Orchids, by Mr. A. D. Webster, figures of Angræcum sesquipedale, Cattleya Lawrenceana Mary Regina, and others, Reports of Societies, and notes and descriptions of various kinds. Succeeding numbers contain articles on the collections of W. Thompson, Esq., M. Firmin Lambeau, and R. Brooman White, Esq., with portraits of the owners, their residences, and some of the plants in their

collections, on Odontiodas, and various Odontoglossums, by Mr. de Barri Crawshay, Some ideas on Orchid Hybridisation, by Mr. J. M. Black, Some facts concerning Cattleya aurea, by Mrs. Emily Thwaites, a coloured plate of Odontoglossum Ceres magnificum, &c., with notes and descriptions of various kinds. The work is issued monthly, and contains twenty-four pages of quarto size, and is well printed and illustrated. The price is one shilling monthly.

ORCHID PORTRAITS.

BRASSOCATTLEYA EUTERPE.—*Journ. Hort.*, 1911, i. p. 235, with fig.

BRASSOCATTLEYA SENATEUR DE BAST.—*Gard. Chron.*, 1911, i. p. 137, fig. 65.

CATTLEYA TRIANÆ HYDRA.—*Gard. Mag.*, 1911, p. 185, with fig.

CIRRHOPETALUM LONGISSIMUM, Ridl.—*Bot. Mag.*, t. 8366.

CHYSIS BRACTESCENS.—*Journ. Hort.*, 1911, i. p. 257, with fig.

CŒLOGYNE CRISTATA.—*Garden*, 1911, i. p. 119, with fig.

CŒLOGYNE MOOREANA.—*Garden*, 1911, i. p. 107, with fig.

CYMBIDIUM GOTTIANUM.—*Gard. Chron.*, 1911, i. p. 180, fig. 81.

CYMBIDIUM LANGLEYENSE.—*Gard. Chron.*, 1911, i. p. 146, fig. 66.

Cymbidium Veitchii.—*Gard. Mag.*, 1911, pp. 188, 189, with fig.

CYPRIPEDIUM AUREUM LAEKENENSE.—*Gard. Mag.*, 1911, p. 169, with fig.

CYPRIPEDIUM SLADDENII.—*Journ. Hort.*, 1911, i. p. 213, with fig.

CYPRIPEDIUM VOGELSANGIANUM.—*Rev. Hort. Belge*, 1911, p. 85, with plate.

DENDROBIUM AINSWORTHII.—*Journ. Hort.*, 1911, i. p. 281, with fig.

LÆLIA ANCEPS SCHRŒDERIANA.—*Gard. Mag.*, 1911, p. 203, with fig.

ODONTOGLOSSUM ROSEFIELDIENSE.—*Gard. Chron.*, 1911, i. p. 163, fig. 73.

ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work*].

W.C.S.—The two Odontoglossums imported with O. crispum are both forms of O. Adrianæ, the natural hybrid between O. crispum and O. Hunnewellianum, one being a very light, the other a richly spotted form. We should be glad to know what others have appeared in this "very mixed lot." You will find a note on the subject at page 144 of our last volume. The seedling Læliocattleya is a good form of L.-c. Nysa (L. crispa × C. Warscewiczii).

F.D.—The fungus, Glæosporium cinctum, is present on the Phalænopsis leaves, but is believed not to be the original cause of the spot.

We have received from the Agricultural and Horticultural Association, 92, Long Acre, London, W.C., a copy of the "One and All Gardening Books," *Antirrhinums*, by Fred W. Harvey, F.R.H.S., and "*Shady Gardens*," by T. W. Sanders, F.L.S. Price one penny each, and well illustrated.

Catalogues received.—Messrs. Charlesworth & Co., Haywards Heath, send us a copy of their Descriptive and Priced Catalogue of Orchids, which is got up in first-class style, and also contains a long list of hybrids with their parents.

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Beg to notify that they have, from March 31st terminated their engagement with Mr. F. W. ASHTON, who has represented them in the Orchid interest.

Important Horticultural Works.

Burberry's Amateur Orchid Cultivator's Guide Book, 5s. 4d.

Orchids, their Culture and Management. By H. J. Chapman, F.R.H.S., with 180 Engravings and 20 Coloured Plates, **25s. 6d.**

Alpine Plants. By W. A. Clarke, F.R.H.S., **3s. 9d.**

Nicholson's Dictionary of Gardening. In 5 volumes, large post 4to, with over 3,000 Engravings, **£4 1s. 6d.**

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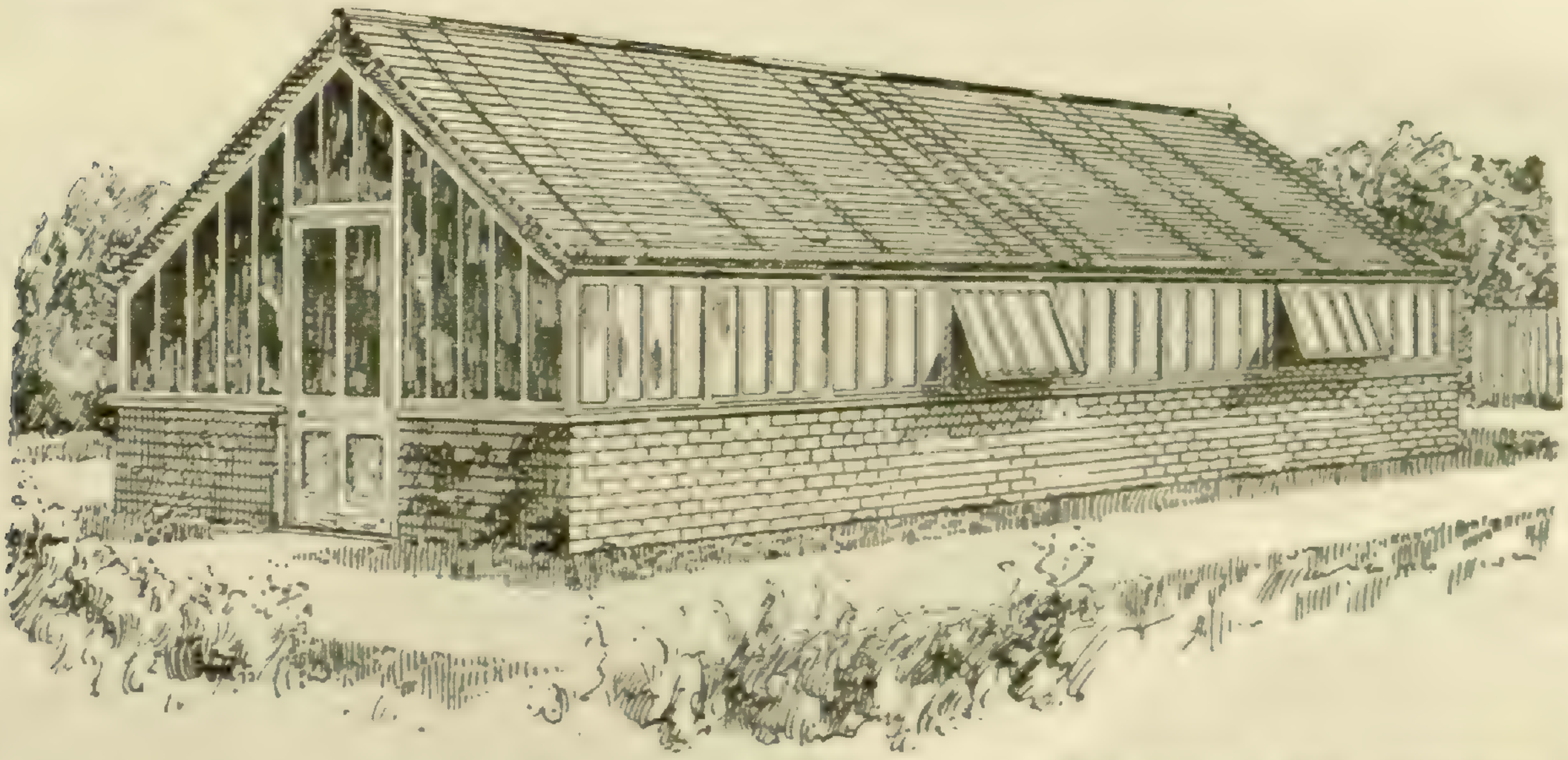

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The "Gardeners' Chronicle" of 1899 refers to our introduction of this glorious species, as flowering at Kew with a branching spike of its bright crimson and old gold coloured flowers.

The "Gardeners' Magazine" describes it as a gorgeous Orchid with crimson scarlet flowers.

The "Garden" speaks of it as a sensational Orchid; everyone is agreed that it is very beautiful, and we are pleased to have a few fine plants to offer, collected by our own collector in the original locality where our traveller first discovered it.

DENDROBIUM REGIUM.

This splendid new Orchid made quite a sensation when the President of the R.H.S. flowered and exhibited it at the Horticultural Hall. In growth it is quite like D. nobile, but the flowers are very different. They are larger and rose pink in colour, without the purple that always runs through the typical D. nobile. The labellum too, is very different to D. nobile. The maroon colour of the labellum, which is a characteristic feature of the latter species, is replaced in D. regium by a soft buttercup-yellow.

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Cattleya Mossiæ, Cattleya Percivaliana, Cattleya Trianæ, Cymbidium Tracyanum var., Epidendrum atropurpureum (syn E. macrochilum).

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VOL. XIX., No. 221. THE MAY, 1911.

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An Illustrated Monthly Journal.

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THE ORCHID REVIEW.

VOL. XIX.] *MAY*, 1911. [No. 221.

OUR NOTE BOOK.

WE have received the Report of the Nomenclature Subsection of the International Congress of Horticulture held at Brussels in 1910, and at pp. 130-133 we give a translation of the Rules of Horticultural Nomenclature adopted by it. We hope our readers will give them a careful perusal, and attempt to carry them into practice, so far as their spirit is concerned. If we cannot endorse them in their entirety it is because we think that in one or two respects they are inconsistent, and fail to attain the very laudable object set forth in the preamble. In order to make our meaning clear, let us say at once that they are the result of a compromise, partly between botanical and horticultural practice, and partly between individuals holding diverse opinions on the subject. This is clear from a long introductory report by Prof. Cogniaux which accompanies the Rules.

Article 1 of the Rules begins by adopting the system of binomial nomenclature, which we may briefly define as one generic and one specific name, and after a few preliminary and general remarks we come to Article 2, which says that for the designation of horticultural varieties the employment of a binomial, with the author's name, is obligatory. We pass on to Article 4, and we find that names of varieties should be expressed, *whenever possible* (the italics are ours) by a single word; it is, however, permissible to employ three words as a maximum. Also that the same rule applies to the specific names of hybrids.

This seems to require some explanation, and on turning to the report we find that one member voted for a name of one word only; two for one word, if possible; six for one or two words; five for one to three words; one for a maximum of four words; six for the fewest words possible; and one for any number of words, without limit. Perhaps it is a fair inference that Article 4 represents the average of these diverse opinions.

But two distinct things are clearly confused in Article 4. A varietal name

is something that is added to a specific name to indicate a departure from type, as Cattleya intermedia alba, the white variety of Cattleya intermedia, C. Dowiana Mrs. F. Hardy, Mrs. F. Hardy's variety of C. Dowiana. The name of a hybrid is something quite different. It is not a varietal, but a *specific* name, to which varietal names must almost inevitably be added, for hybrids are notoriously variable. If the binomial rule is followed for the specific name all is perfectly clear, as Cattleya Hardyana, which has innumerable varieties—for example, C. H. alba and C. H. Countess of Derby. But if the binomial rule is not followed for the specific name, we get a complication, for example C. William Murray and C. William Murray fulgens; C. Miss Harris and C. Miss Harris var. E. Ashworth, which latter the *Gardeners' Magazine* once termed "a somewhat lengthy and incongruous name."

Article 4 should be limited to varieties and to plants named as florists' flowers. Primary hybrids should certainly be excluded, and indeed all names that are used in a specific sense. In these cases the name should be limited to a single word, so that any necessary varietal names can afterwards be added. We shall strongly contend for this interpretation of the rules, and here we will leave the matter for the present.

HORTICULTURAL NOMENCLATURE.

RULES of Horticultural Nomenclature adopted by the Nomenclature Subsection of the International Congress of Horticulture, held at Brussels in 1910:—

Article 1.—Horticultural Nomenclature is based on the Rules of Botanical Nomenclature adopted by the International Botanical Congress held at Vienna in 1905. It adopts all its principles and rules as regards names of species and groups of higher rank, with the modifications and additions contained in the following articles for horticultural varieties and hybrids of cultivated plants.

Among the principles which serve as the basis of these rules it is particularly important not to lose sight of the following:—

1. The essential points in nomenclature are: *a*, to aim at fixity of names; *b*, to avoid or to reject the use of forms or names which may cause error or ambiguity, or which throw science into confusion. Next in importance is the avoidance of all useless creation of names. Other considerations, such as absolute grammatical correctness, regularity or euphony of names, prevailing custom, respect for persons, &c., notwithstanding their undeniable importance, are relatively accessory.

2. No custom contrary to rule can be upheld if it leads to confusion or error. When a custom offers no serious inconvenience of this kind it may

be a ground for exceptions, which we must, however, abstain from extending or copying. Finally, in the absence of rule, or where the consequences of rules are doubtful, established custom becomes law.

3. Each natural group of plants can bear in science only one valid designation, namely, the oldest, provided that it is in conformity with the rules of nomenclature.

4. The designation of a group by one or more names is not for the purpose of describing its charactor or history, but in order that it may be readily identified when the name is used.

5. No one should change a name or a combination of names without serious motives, based on a more profound knowledge of the facts, or the necessity of giving up a nomenclature that is contrary to rules.

6. Botanical and horticultural nomenclature begin with 1753 for all groups of vascular plants.

Article 2.—For the designation of specific horticultural varieties and simple forms the employment of a binomial, with the author's name, is obligatory.

The use of Latin to designate horticultural varieties is not authorised except when it expresses the characters of the plants, as *nanum*, *fastigiatum*, &c. The use of Latin proper names is not permitted for these varieties.

Names of varieties should always be written in Latin characters.

Article 3.—When the name of a variety expressed in a common language is transferred to another language, it should not be translated, but should be retained as originally published.

Article 4.—Names of varieties should be expressed whenever possible by a single word; it is, however, permissible to employ three words as a maximum.

The same rule applies to the specific names of hybrids.

Article 5.—The publication of a variety in a dated horticultural Catalogue is valid if accompanied by a description, but without a description, either in a Catalogue or in the published report of an exhibition, it is not considered valid, unless accompanied by a figure.

It is desirable that descriptions of new varieties published in horticultural Catalogues should be reproduced in periodical horticultural publications.

Article 6.—The description of a new variety or a new hybrid, to be valid, should be given either in English, French, German, Italian, or Latin.

Article 7.—Hybrids between species of the same genus, or presumedly so, are designated by a name and a formula.

The name should be distinguished from specific names by the sign × placed before the generic name.

The formula, placed in parentheses, should give the specific names of

the two parents, the name of the seed parent being placed first. This is indicated by the sign ♀.

Article 8.—The specific names of hybrids should be in Latin, or in a common language written with Latin characters.

Article 9.—All hybrids obtained by crossing the same two species should bear the same specific name. All forms derived from the same cross, or from successive crossings of varieties of the same two species, should be attached as varieties to this same specific name.

Article 10.—When the parents of a hybrid are transferred to another genus, the hybrid follows, and the specific name is subject to the law of priority or other rules applicable to species under similar circumstances, as in Article 48 of the Rules of botanical nomenclature.*

For example, those who admit the genus Paphiopedilum, must call × Cypripedium Vervaetianum, Rchb. f. in *Gard. Chron.*, 1888, i. p. 712 (× C. Euryale, *Veitch Man. Orch.*, iv. p. 83, 1889), × Paphiopedilum Vervaetianum, not × P. Euryale, *Stein Orch.*, p. 466 (1892).

Article 11.—Names of horticultural varieties of hybrids should always be expressed in common language.

Article 12.—Crosses between varieties, or forms of the same species, and ternary, or more complex hybrids, should be distinguished by a name and a formula, and follow the same rules as ordinary hybrids.

For ordinary use, when speaking of well-known hybrids, the formula may be omitted and the name only used.

Article 13.—Bigeneric hybrids are also distinguished by a name and a formula.

The generic name is formed by the combination of the generic names of the parents, in the form of a single word, and arranged in such a way that the parent genera may be easily recognised. It is preceded by the sign ×, and followed by the specific name.

The specific name is governed by the same rules as are ordinary hybrids (See Art. 4 and 2 and Art. 8).

The formula should be written conformably to Art. 7.

Article 14.—Plurigeneric hybrids should receive a conventional generic name, preferably that of some distinguished person, with the termination *ara*.

A special generic name should be formed for each distinct combination

* Article 48.—When a genus or subgenus or species is moved into another genus, when a variety or other division of a species is moved into another species, retaining there the same rank, the original name of the subgenus or section, the first specific epithet, or the original name of the division must be retained or must be re-established, unless in the new position there exists one of the obstacles indicated in the Articles of Section 7.

of genera. Thus all combinations of the four genera, Brassavola, Cattleya, Lælia and Epidendrum, whatever the order in which they are combined, should receive the same generic name, which might be, for example, *Linneara*.

As exceptions, the names of the trigeneric hybrids Brassocattlælia and Sophrocattlælia, which are already in use, should be retained.

Article 15.—For a new hybrid to be considered as published it must be named according to the rules, and a formula and description should be published.

Publication should be made in the same way as provided for horticultural varieties, as given in articles 5 and 6.

Article 16.—In all cases where the rules of horticultural nomenclature would be contrary to accepted custom, they should not have a retroactive effect.

THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON.

COOL HOUSE.

THE treatment required by all plants in this house will be much the same as that advised in my last month's article. On bright days it will be well to look over the Orchids daily, to see that none which are in full growth become at all dry. Extra ventilation and shading will be needed, keeping the blinds down till the sun is well off the house. On warm nights a little bottom air can be admitted, and fire heat may now occasionally be dispensed with. There should still be several Orchids which need repotting or top-dressing, and this should be done immediately, as it is not advisable to disturb any plant during the hot weather. Damping is needed three times a day, in the morning and evening and about mid-day. On dull and cloudy days twice, however, will be sufficient. If the atmospheric conditions are properly regulated the plants will make rapid progress.

CATTLEYA HOUSE.

Here a little shade is needed in the middle of the day, but only keep it on while the sun is shining directly on the plants. Damp down at least three times a day, spraying the plants overhead about four o'clock. All growing and flowering Cattleyas, Lælias, and their hybrids must be kept well supplied with water. The repotting of these Orchids, and also of Dendrobiums, can be proceeded with as soon as any plants are ready. The imported plants of Vanda cœrulea are now rooting freely, and those of the earlier importation should be provided with suitable compost. Remove a few of the crocks, and for soil use a mixture of one part polypodium and osmunda fibres to two parts of pure green sphagnum moss. These should be chopped up finely and used in a damp, not wet, condition. The supply of water

may now be gradually increased, and the leaves syringed lightly every alternate day.

ADA AURANTIACA will now have finished flowering, and may be repotted. Use a mixture of osmunda fibre and sphagnum moss, adding a handful of oak leaves. This is a free-growing Orchid, and should be given plenty of room, as frequent root disturbance causes the plant to deteriorate. From personal experience I find it best only to re-pot the plants every three years.

CYMBIDIUMS.—Any plants of this beautiful genus which have now passed out of flower may be repotted, but this should only be done if necessary. These are strong and vigorous-growing Orchids, disliking any disturbance of the roots, and so when repotting, after having trimmed the plant, it should be placed in a fresh pot at least a size larger than the one it was previously occupying. For soil use two parts of loam to one part each of osmunda fibre and sphagnum moss. Pot these Orchids firmly, and place the base of the bulbs about two inches below the rim of the pot.

PROPAGATION.

The propagation of all Orchids, whether for the cool or Cattleya house, is often unnecessary, as good healthy plants of the usual species and hybrids can be procured at a low price; but if a specially fine variety be possessed, it is then advisable to increase the stock, and the following are the various methods employed :—

CATTLEYAS, &c.—When a plant has several back bulbs, cut through the rhizome with a sharp knife behind the last bulb but one from the lead. In a short time a break will be made, and when the plant is being repotted, the severed portion can be removed. This applies to all the genera of Orchids which have pseudobulbs—*e.g.*, Lælia, Odontoglossum, Oncidium, Trichopilia, Lycaste, &c. Cattleyas, Lælias and their hybrids frequently have a dormant eye at the base of several back bulbs. If these be cut through the rhizome, they will start into growth and thus increase the stock.

CYPRIPEDIUMS.—The propagation of these Orchids is effected by dividing the plants when repotting. Any portion with a few roots will soon grow into a flowering-sized plant.

DENDROBIUMS.—These Orchids are increased by cutting off any of the growths which are frequently formed upon the old bulbs, and inserting these in small pots. If kept warm, damp, and well shaded, they soon become established, and flower in some cases more freely than the old plants. This is especially the case with such species as D. crassinode and Wardianum. Another method often employed is to cut off some of the old bulbs into pieces of a few inches in length, and laying these on moss in a warm and shady corner of the house. They will often produce small plants, which can then be treated as advised above.

SUGGESTED ADDITIONS.

DENDROBIUM NOBILE NOBILIUS.—This is an exceptionally good variety of this well-known Orchid, and is one which I should advise every amateur to procure for his collection. The blossoms are of good size, and freely produced at intervals from the previous year's bulb. In colour the sepals and petals are deep rosy purple, and the lip of similar colour with a dark maroon blotch. This Orchid is now in flower, and, if requiring it, should be repotted as soon as the blooms have faded. It is advisable to utilize the back bulbs for propagation, three being enough to support the new growth.

ODONTIODA BRADSHAWIÆ.—Of this beautiful bigeneric race, the above is not only one of the cheapest, but is very beautiful, and its brilliant colouring imparts much brightness to the Cool house. It is particularly floriferous, and is a plant which can be strongly recommended for a beginner. The flowers are of good size, borne on a long spike, the sepals and petals being of dazzling bright red. The lip is vermilion with yellow crest. It was derived from Cochlioda Nœtzliana and Odontoglossum crispum. This beautiful plant requires ordinary Cool house treatment. Repotting is needed about every two years, and I find the following compost most suitable, one part polypodium fibre to two parts of oak leaves and sphagnum moss. It should be grown at the warmest end of the house.

ORCHIDS AT BOLTON.

THE collection of J. McCartney, Esq., Hey House, Bolton, is one of the best known in the north of England, and contains a large and varied selection of the most popular species and hybrids. About 4,000 plants are grown, and are contained in five houses, and it will be best to describe them in the order in which they are found.

A small low structure is devoted to Odontoglossums, all the principal species and hybrids being represented by well-grown plants. In flower I noticed a good O. Fascinator, with several O. crispum and O. triumphans latisepalum. In this house were three well-bloomed Cattleya citrina, and a collection of Masdevallias. The next house contains Cypripediums, represented by remarkably strong-growing plants, the leaves of all being perfect to the tips. A healthy batch of C. Fairrieanum called for special attention, whilst in bloom were C. aureum Hyeanum, C. Vandyke, a pretty pink flower, C. insigne Laura Kimball, and C. Leeanum Clinkaberryanum. A healthy batch of Miltonia vexillaria was also noticed.

The next house is a structure called the "resting house," where I noted several well-budded Dendrobiums, some of them having pseudobulbs over 2½ feet long.

The main house is a long building, divided into three compartments, the first being more of a conservatory. Here were noticed in flower two dark

Dendrobium nobile nobilius, and some good hybrids, including the beautiful D. Mary McCartney, Cymbidium Lowianum concolor, a well-coloured Læliocattleya Hypatia, and a plant of the magnificent L.-c. Dreadnought (L.-c. Greenwoodii × C. Mossiæ), which recently gained a First-class Certificate at Manchester. In this house were many good Vanda cœrulea, and a collection of the best varieties of Lælia anceps, which are here great favourites.

In the next division, about fifty feet long, there is a rich and varied collection of Cattleyas, Lælias, and their hybrids. Every plant is in perfect health, which reflects the greatest credit on Mr. Holmes, the able grower. Cattleya Schrœderæ had been making a grand show, and a pretty variety called Diadem was just opening. In flower were several good Brasso-cattleyas, Lælia cinnabarina, Læliocattleya Powellii, L.-c. Gottoiana, and several others, a good, almost white, Cattleya Mendelii, and other interesting plants.

The third division is devoted to Vanda suavis, represented by several magnificent plants over three feet high and beautifully leaved, Phalænopsis, of which several were in flower, and Læliocattleya seedlings, all growing well.

Situated in the heart of Bolton, and in such close proximity to factory chimneys and coal dust, one wonders how it is possible to maintain so large and varied a collection in such a high state of perfection. The secret of success can, however, be traced to the keen interest displayed by the owner, most ably seconded by Mr. Holmes, whose knowledge of Orchid growing is extensive, and covers a long period of time. ALWYN HARRISON.

RARE ORCHIDS AT KEW.

AMONG the numerous interesting Orchids now flowering at Kew may be mentioned a fine plant of the handsome Eulophiella Peetersiana, the first flowers of a strong spike having just expanded. Near by is a good plant of E. Elisabethæ with two spikes, which have been out for some time, and consequently are nearly over. The latter has now become rare, and it is not often that the two can be seen in bloom together. A plant of Cattleya guatemalensis, the rare natural hybrid between C. Skinneri and C. aurantiaca, is also in bloom, and its origin can be traced very clearly. The rare Phalænopsis tetraspis, a native of the Andaman Islands, is also bearing an inflorescence of its pure white flowers. The elegant little Cirrhopetalum campanulatum, which was figured at page 73 of our last volume, is again in bloom, its bell-shaped inflorescence of pink flowers being very charming, while close by are the larger buff-coloured C. Mastersianum, and a good plant of the Javan C. biflorum, which seems very persistent in its twin-flowered character. Many other interesting things are in bloom.

PAPHIOPEDILUM SUTTONIÆ AND ITS PARENTS.

OUR present illustration represents the very charming hybrid Paphiopedilum Suttoniæ (fig. 15), together with its two parents, P. niveum (fig. 16), and P. Chamberlainianum (fig. 17). They are from plants which flowered at Kew a few weeks ago, and are reproduced from an excellent photograph taken by Mr. C. P. Raffill. They are, of course, much reduced in size. The hybrid combines the characters of its parents in a very interesting way, being most like P. Chamberlainianum in habit, while the flower has more of the niveum character, the dorsal sepal and petals being rather broad, and beautifully lined and reticulated with purple on a white ground. This hybrid appeared for the first time in January, 1902, when it was exhibited at a meeting of the R.H.S., by A. Sutton, Esq., Bucklebury, Woolhampton,

Fig. 15. PAPHIOPEDILUM SUTTONIÆ.
Fig. 16. P. NIVEUM. Fig. 17. P. CHAMBERLAINIANUM.

under the name of Cypripedium Mrs. A. W. Sutton (*O. R.*, x. p. 51), and six weeks later it was shown by Messrs. Charlesworth & Co. as C. Godiva (*l. c.*, p. 118). As the original specific name was not in accordance with the rules then in force we changed its form, the object being to retain the original idea while making it also conformable to rule (*Orchid Stud-Book*, p. 209), and thus the name now stands as Paphiopedilum Suttoniæ. What its correct name is under the new rules is a rather nice question, for the original name is still not admissible, which affords sufficient justification for the name here adopted. We do not think that the hybrid has been previously figured.

P. NIVEUM (fig. 16) is a well-known white-flowered species, sometimes with a few minute purple dots on the petals and dorsal sepal. It is a native of the Langkawi Islands, where it is found on limestone rocks in somewhat shaded positions. It has been known for upwards of forty years.

P. CHAMBERLAINIANUM (fig. 17) is a Sumatran species, and a member of a small group which produces flowers in succession for many months, the scapes continuing to elongate for a long period. It was introduced in 1892, and was figured at page 361 of our fifth volume.

ORCHIDS AT THE WEST HILL, HESSLE, E. YORKS.

HESSLE is situated five miles or so west of the city of Hull, and is one of the favourite residential suburbs of that city. The West Hill is about three-quarters of a mile west of the picturesque village of Hessle, and, as its name implies, stands on a hill overlooking the Humber. The collection of Orchids here brought together by W. P. Burkinshaw, Esq., is probably, in some classes, one of the most select in existence.

The collection is housed in three ranges of houses and one independent one, which are divided into nine compartments. Several of them have been adapted to Orchid culture from ordinary plant houses, and are of span shape. They run north and south, with a single exception, and this runs east to west. The latter is the first we enter, and is filled with Lælia anceps of the best varieties, both white and coloured. They include Bull's alba, Sanderiana, Schrœderiana, Schrœderæ, Amesiana, Amesiana Hessle variety, a particularly fine form which flowered for the first time last winter, Williamsii, Hollidayana, Chamberlainiana, Stella, and perhaps the finest form in cultivation, namely L. a. Stella Hessle variety, which is a white anceps as large as L. a. Chamberlainiana. Upon the roof are suspended a number of plants of Lælia Gouldiana and L. autumnalis alba. Perhaps in no collection in existence are so many plants grown in a given amount of room, and one of the features of the collection is the number of plants grown suspended from the roof. When at their best they form a picture of loveliness. At one end of this house are a number of the brilliantly-coloured Renanthera Imschootiana, which promise nicely for a fine crop of flowers later on. Associated with them are several nice plants of Vanda cœrulea, which look quite at home, and which have been grown from quite small pieces.

The next house we enter is a warm Cattleya house, and is divided into two compartments, and to describe all the inmates would fill a veritable catalogue. The roof is carrying thirteen rows of plants of all sizes, all of which are pictures of health. This house has no centre stages, only side stages, which are filled with plants that are too large to suspend, although pans up to ten inches in diameter are suspended. The contents of this house include

many fine specimens of white Cattleyas, for which the collection is noted, amongst which are the unique C. gigas White Queen (F.C.C., R.H.S.), C. g. Frau Melanie Beyrodt, C. g. R. Ashworth, C. g. King Edward VII., C. g. Wilderspool variety, C. Warneri alba, C. intertexta alba, a lovely hybrid between C. Warneri alba and C. Mossiæ Wageneri, C. speciosissima alba, C. s. alba var. Empress, C. s. Stanleyi, and the unique variety, C. s. memoria Wavriniana. The two latter were in flower, enabling one to judge of their distinctness. There were also several plants of C. Gaskelliana alba with almost as many leads as bulbs –in fact, one was pointed out pushing three leads from one bulb, which I think is proof of the vigour of the plants as grown here. There were also several varieties of C. Hardyana alba, C. H. The Grand Duke, C. H. Queen Alexandra, and C. aurea alba. Several very fine plants of C. Mrs. Myra Peters and C. Suzanne Hye were also pushing clean young growths, quite small plants pushing three new leads.

The other occupants of the house included two fine plants of L. tenebrosa Walton Grange variety, and the intense-coloured L. t. Charlesworthii. Læliocattleyas are also thoroughly represented, and include the stock of L.-c. Our Queen, with such varieties as Canhamiana alba, C. Rex, Aphrodite, A. alba, A. Orchidhurst variety, A. Mark Hambourg, Fascinator King Edward VII., Fascinator Star of the North, Martinetii nobilior, perhaps the richest-coloured L.-c. Martinetii yet flowered, also several very fine plants of the superb L.-c. Ivernia variety Muriel Wilson, L.-c. St. Gothard var. splendidissima, several very fine L.-c. Dominiana, and the lovely L.-c. C. G. Roebiing, one plant of which is pushing up three spikes of bloom, and should make a fine show.

Among Cattleyas which are not albinos in this house, mention should be made of the lovely C. Schofieldiana Hessle variety, C. Venus var. King Manoel, C. Rhoda conspicua, and many others. The side stages are occupied chiefly with Cattleya gigas, which flower well every year. Laeliocattleya callistoglossa is represented by such varieties as igniscens, excelsa, and splendens, L.-c. callosa magnifica, and others. Among the white Cattleyas some thirteen or so Cattleya Dusseldorfii variety Undine were observed pushing up their chaste white flowers. At one end stood several very fine plants of C. Bowringiana, including Wild's variety, Hessle variety (very fine), and concolor.

On one side of the roof was to be found a good batch of Brassocattleyas, which includes B.-c. Veitchii and var. Queen Alexandra, heatonensis, Thorntoni and its variety The Queen, Mariæ, Maronæ, Digbyano-Mendelii Hessle variety, which is represented by some ten plants, Fournieræ, Leemanniæ, and numerous others. Brassocatlælia Veitchii was pushing up two spikes of flowers, and other Brassocatlælias being Rowena and Edgar Wigan.

The next house entered was a cool Cattleya house, in which Cattleya Mendelii and C. Mossiæ are grown. Upon the roof we found suspended three rows of albinos of these two species, with two or three plants of C. Schrœderæ alba, the rest being smaller plants of C. Mossiæ and Mendelii. Amongst the C. Mendelii are the pure white varieties, memoria J. McBean, alba, White Queen, and leucoglossa. Among C. Mossiæ there was one C. M. Wageneri with seven sheaths, and several with three and four. Other white Mossiæ are Reineckeana superba (true), R. excelsior, Lady Wigan, White Lady, and Arnoldiana in several varieties. Other white Cattleyas noted as growing in this house were C. Percivaliana alba, C. Trianæ alba, C. Skinneri alba, and several others. Ten rows of plants are suspended in all.

The side stages of this house were filled with C. Mendelii and C. Mossiæ, which have mostly been selected in flower. On one side is to be seen a very fine batch of Miltonia vexillaria and Bleuana, the latter including the wonderful M. B. Hessle variety, B. virginalis, and several others. Of M. vexillaria we noted the varieties magnifica, alba, Queen Alexandra, Lambeauiana, Cobbiana, Empress Augusta Victoria, chelseiensis, superba, Leopoldi, and many others, all the picture of health and vigour. At the north end were specimens of Cymbidium, including Winnianum, Hookerianum, Tracyanum, and a batch of unflowered seedlings. The south end is occupied with Lælia purpurata, and includes the varieties Littleana, Robsoniæ, Schrœderæ, alba, and others.

The southern end of this range is devoted to Cypripediums and other warm Orchids. The roof is occupied in the summer months by Dendrobiums which include most of the best varieties, and which are now in full bloom, Among those that are not too well known is the lovely D. Rolfeæ roseum, which is indeed a gem. But to describe all the varieties grown of this family would take up too much space, so I will pass on to the Cypripediums, which are grown on the side stages, and on a middle bed. To start with, what strikes one more than anything at first sight is a noble specimen of C. Pitcherianum Williamsii, which has carried a crop of thirty-two flowers this season. Specimen plants are the things aimed at, and in looking through the collection one must admit that the aim is realised.

Among the Cypripediums are C. Gaston Bultel, C. Germaine Opoix, Euryades New Hall Hey var., E. splendens, E. King Edward VII., and of C. Leeanum, which is a favourite, the varieties Hercules, Queen Alexandra, Monarch, Lavertonianum, Clinkaberryanum, Staffordianum, Gratrixiæ, Purity, and many others. Of the general collection it is sufficient to say that it includes such varieties as C. Minos Youngii in an eight-inch pot, C. Mrs. E. V. Low in a seven-inch, C. Hindeanum Vine House variety with four spikes of flowers, one being twin-flowered. Speaking of twin-flowered

Cypripediums, it is said that C. Beeckmanii here nearly always comes twin-flowered. Cypripediums are admired here for their winter-flowering properties, and include most of the best varieties, such as C. eboriacum, Troilus, F. W. Ashton, Bianca, Lord Ossulston, aureum Surprise, Alcibiades Hessle var. (which is synonymous with C. Alcibiades Illustrious), Priam, The King, and others. Growing in this house is the certificated plant of Angræcum Veitchii, which every year produces a fair crop of flowers. In this house also was observed two plants of Spathoglottis aureo-Vieillaretii with spikes some five or six feet high, which had been for months, and is still in flower.

The next house we pass into is much narrower, with a walk straight up the centre and a stage on each side. It is divided into three compartments, which are devoted to cool Orchids. White Odontoglossums have always been favourites with Mr. Burkinshaw, and here are to be found a goodly number of O. crispum xanthotes, O. c. virginale, and other white forms of this Queen of Orchids. O. armainvillierense xanthotes is in flower, and is of fine shape and size. Several Odontiodas of different varieties are suspended from the roof. The majority of the plants are specimens, and the only thing they seem to appeal for is more room. In passing through I was struck with a fine specimen of Nanodes Medusæ, which is undoubtedly one of the finest specimens in cultivation. At one end of the house is grown a few specimens of Masdevallias of the Harryana and Veitchii section, with a few botanical species, such as M. muscosa and others. Maxillaria Sanderiana, in a twelve-inch basket, was just opening four of its peculiar flowers.

We next passed into the last compartment of this range, which is filled with the cooler-growing Cypripediums, such as insigne Sanderæ, which is growing in sixteen-inch pans, Harefield Hall var., and others. A goodly number of C. callosum Sanderæ were pushing up their flower spikes, also its offspring, C. Maudiæ magnificum, was here in flower. C. Lawrenceanum Hyeanum and C. L. Gratrixianum were also pushing up spikes. C. Thalia giganteum and C. Mrs. F. Wellesley thrive wonderfully. Perhaps the largest plant of C. H. Ballantine in the country is growing here, also two very fine C. Baron Schröder. Suspended from the roof are to be found a grand selection of Sophrocattleyas, including Calypso, Chamberlainiana, Saxa, and Doris, also Sophrocatlælia Marathon, Medeia, and the Hon. Barbara Wilson, the latter now in flower. Cœlogyne sparsa has been a picture in itself, completely covered with its fragrant flowers. On the other side, also suspended, are several very fine specimens of Bulbophyllum Dearei and Godseffianum, which, with the allied Cirrhopetalum, are doing well. C. Collettii was observed in eight-inch pans, C. ornatissimum, in a seven-inch, and the wonderful C. Rothschildianum in a six-inch. A good

Oncidium Leopoldii was also growing very well in this house, and promises soon to make a strong flowering plant.

Mr. Burkinshaw is to be congratulated upon the zeal and enthusiasm displayed in bringing such a fine collection together, and the plants are eloquent as to the abilities of the cultivator, Mr. J. T. Barker, under whom the collection has been practically built up. Mr. Barker has been with Mr. Burkinshaw some sixteen or seventeen years, and the best of good feeling exists between employer and employed. In a collection like this there is always something interesting, and I have not attempted to describe all the things seen in flower on account of space. The record of the collection at the Grand Yorkshire Gala, the only place where Mr. Burkinshaw shows for competition, reads as follows: 36 first prizes, 27 seconds, and 8 thirds—a record which speaks for itself.

EBORITE.

ORCHIDS AT TWICKENHAM.

THE Orchid Nursery, Amyand Park Road, Twickenham, was established many years ago by Mr. H. A. Tracy, and is now being carried on by Mr. Sydney Flory, a nephew of Mr. Tracy's, who has been associated with the firm since boyhood. The other day we had the pleasure of calling on Mr. Flory, and found a large number of interesting plants in the establishment. There are six houses, containing a very varied collection of species and hybrids. An interesting importation of Ceylon Orchids had just arrived, including plants of Anœctochilus regalis, which had travelled well, and a few of the beautiful Dendrobium Maccarthiæ, which is unfortunately one of the most difficult species in the genus to grow. We saw also a lot of interesting Orchids from Peru, from the importations of Mr. Kromer, some of which are unfamiliar, and not improbably contain species hitherto undescribed or unknown in cultivation.

The first house entered contained a lot of the heliotrope-scented Cattleya Schrœderæ, of which over two dozen were on flower, and a number had been cut the same morning. They showed the usual amount of variation, and made a very charming display. A Læliocattleya highburiensis was also carrying a good spike, and several plants of Dendrobium infundibulum were flowering freely, and are very useful for cutting. This house contained a varied collection of Cattleyas and allies, and a number of choice varieties were pointed out, the best being for the most part suspended from the roof, as the most favourable position. We cannot enumerate them, but may mention a couple of plants of the chaste C. Skinneri alba and the distinct C. labiata cœrulescens. Here was also a good plant of Bifrenaria Harrisoniæ in bloom, and a Gongora producing three long spikes, the flowers not yet expanded. We suspect it is G. quinquevulnera, as it came from Peru, and

the buds are closely marked with tranverse lines, indicating the markings on the segments.

In the next house we saw an interesting importation of Cochlioda Nœtzliana from Peru, and with them came another species which we recognised as C. rosea, examples of each being in bloom. What was also especially interesting was a plant of intermediate character which was flowering in the importation, and which is described on page 144 as C. Floryi. A nice batch of Oncidium concolor was suspended here, a number being in bud and about a dozen in flower. Some O. prætextum were also in bud, and Mr. Flory remarked that these had proved to be a very mixed lot. Some natural hybrids are believed to come in importations from the same district, and it would be interesting to have the question carefully worked out. A number of Odontoglossums are grown here, some being in spike. There were also some good plants of Masdevallia tovarensis, and we noticed that the old spikes were left on, as they produce another crop of flowers when the blooming season returns. Among other interesting things pointed out were plants of Aganisia lepida and A. ionoptera, now very rare in cultivation.

In the next house various Odontoglossums were noticed, some being in spike and flower, the latter including forms of O. crispum, triumphans, loo-christiense, gloriosum, the rare O. blandum, and some rather peculiar forms of O. Pescatorei. These came from the district which yielded the pretty O. P. Sanderæ some time ago, and are not quite of the ordinary type. Here were also some good Oncidium concolor in bloom, one having the greater part of the column wings red and the stigma margined with similar colour, hence the name O. concolor var. rhodoptera, under which it is described on another page. A number of unfamiliar Peruvian Oncidiums and allies were pointed out here, from which something interesting is expected when they flower.

We next visited a Warm house, and found a number of Dendrobiums, a few being in bloom, among them D. Pierardii, D. Wardianum, and some well-flowered D. infundibulum. A fine plant of the rare Vanda Denisoniana was pointed out, though not in bloom, Angræcum Leonis, Listrostachys arcuata, the rare Pleione pogonioides, and plants of Oncidium pulchellum, a few spikes being pushing up. There was also a plant of the rare Cœlogyne Cumingii, Saccolabium curvifolium, and some plants of the Warscewiczella group which were imported with Chondrorhyncha Chestertoni. A distinct deep red hybrid Epidendrum was in bloom, but its parentage has been lost, and we failed to identify it. Among the hybrids we noted a good plant of Sophronitis grandiflora × Lælio-cattleya elegans, of nearly flowering size. In another division we saw a good batch of the true Angulo a uniflora, imported from Peru, and several plants of the Venezuelan A. Ruckeri, the latter showing for flower.

A Cypripedium house contained a lot of healthy plants, with a few in

flower, chiefly hybrids, though the majority were over for the season. C. insigne and its hybrids were well represented. We also noted a plant of the interesting C. Harrisianum virescens in bud.

The remaining divisions included several features of interest, and first we may mention a little batch of the allied Dendrobium infundibulum and D. Jamesianum flowering together, the best distinguishing feature between them being in the bracts, those of the latter being more strongly covered with black hairs, though there are also slight differences in the shape and colour of the flowers. We noted also the chaste Cœlogyne cristata alba, the rare C. sparsa, Cattleya citrina, and Eria stricta, with Cœlia bella in bud. Among the Ceylon plants we noted the rare Eria braccata, and others.

The collection is very varied, and includes a considerable number of botanical Orchids, in which Mr. Flory takes great interest, and of which a large number pass through his hands, as well as of the more showy species and hybrids to which the establishment is primarily devoted.

COCHLIODA FLORYI.

A VERY interesting Cochlioda has just flowered in the establishment of Mr. H. A. Tracy, at Twickenham. Mr. Tracy obtained an importation of Cochlioda Nœtzliana from Peru, through Mr. Kromer, and when the plants began to flower it was found that a lot of C. rosea were among them, and now one of quite intermediate character has also flowered, of which we have received the inflorescence. At first I suspected it might be a second plant of the rare C. miniata, L. Lind. (*Lindenia*, xii. t. 562), described as a natural hybrid between C. Nœtzliana and C. vulcanica, but on careful comparison it proves to be different, and no C. vulcanica have appeared in the importation. I believe it to be a natural hybrid between C. Nœtzliana and C. rosea. The flowers are most like the former in colour, being cinnabar-red with a yellow crest, but the sepals and petals are much narrower. The modified structure is clearly in the direction of C. rosea, and the white anther recalls the latter very strongly. We thus have pretty clear evidence that the two species grow together, and also hybridise. The flowers of C. Floryi are nearly 1½ inches in diameter, and the sepals are lanceolate, and subacute, and the petals elliptic-oblong, rather shorter, and considerably broader. The lip is over ½ inch long, and strongly 3-lobed, the front lobe being broad and much dilated, the side lobes nearly orbicular, and the crest yellow. The column is clavate, 5 lines long, with a pair of broad entire lateral wings and an upper minutely denticulate wing, the anther being white. It would be interesting if our hybridists would cross the two species together, and let us know the result. Seedlings between C. Nœtzliana and C. vulcanica are, we believe, already in existence.

R. A. R.

ODONTOGLOSSUM OSSULSTONII SHRUBBERY VAR.

THE annexed figure represents the handsome Odontoglossum Ossulstonii Shrubbery var. (spectabile × Pescatorei Charlesworthii), which received a First-class Certificate from the R.H.S. on April 11th last, when exhibited by Messrs. Charlesworth & Co., as recorded at page 148. It is reproduced from a photograph kindly sent by Messrs. Charlesworth. The flower is large and of excellent shape, the segments being very broad; the sepals,

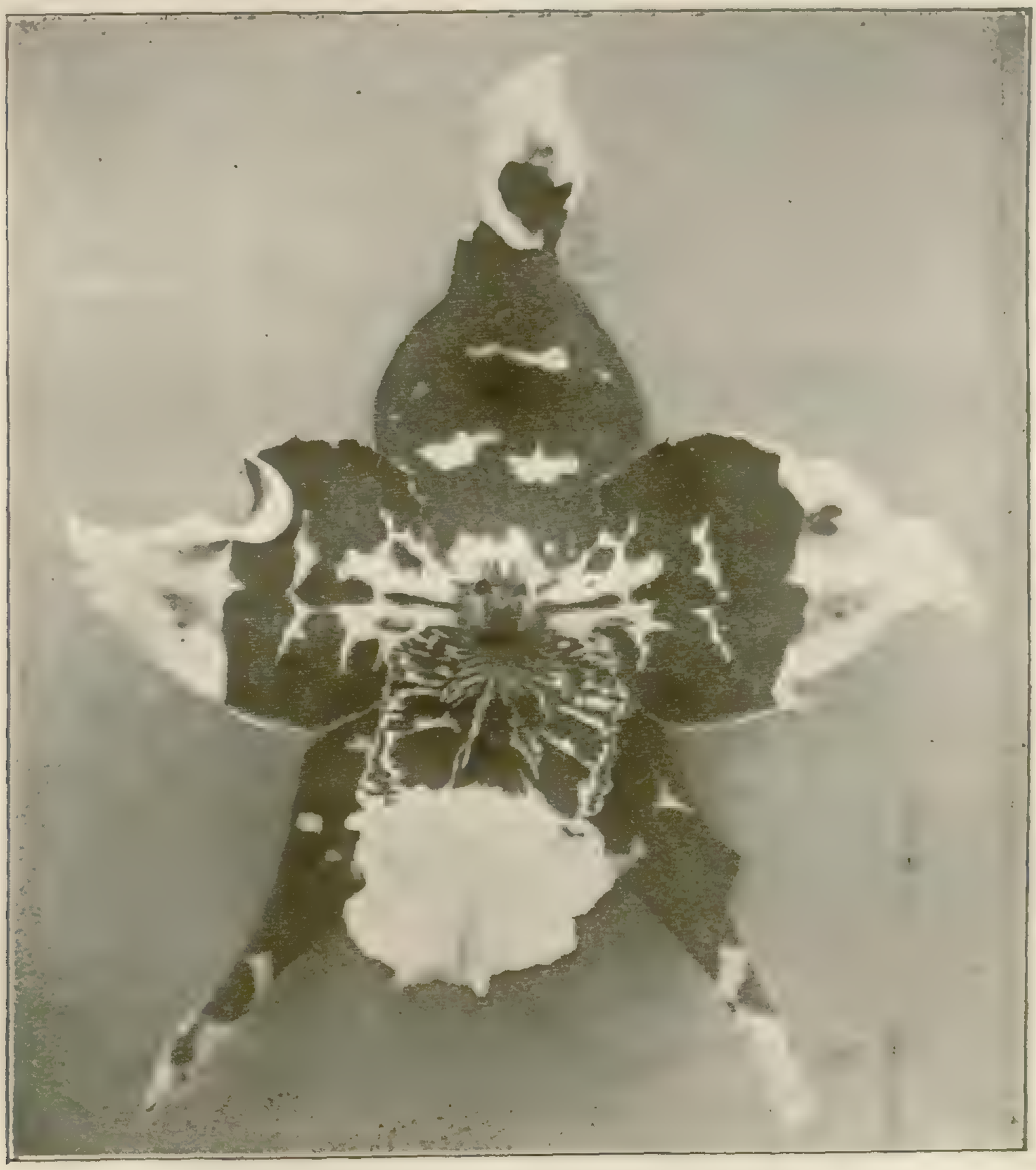

Fig. 18. ODONTOGLOSSUM OSSULSTONII SHRUBBERY VAR.

however, had begun to reflex when the photograph was taken. The lower two-thirds of the sepals and petals are very heavily blotched with claret purple, the tips and a few markings below being white. The upper half of the lip is white, and the base rich red-brown, with a yellow crest, and some pale lines near the margin. The influence of O. Harryanum is well shown in the crest and base of the lip, also in the colour of the segments. It is one of the finest forms of this variable and beautiful hybrid which has yet appeared.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING was held at the Royal Horticultural Hall, Vincent Square, Westminster, on April 11th, when there was a very fine display of Orchids, no fewer than eleven medal groups being staged, other awards being two First-class Certificates, and one Award of Merit.

Sir Jeremiah Colman, Bart., Gatton Park (gr. Mr. J. Collier), staged a fine group, to which a Silver Flora Medal was given. It contained a fine series of well-grown Phaius Norman, the handsome Odontioda Charlesworthii superba, O. Vuylstekeæ, Odontoglossum Queen of Gatton, O. Lady Roxburgh, Cattleya Mendelii Quorn House var., a fine Dendrobium Brymerianum, Maxillaria præstans, Chysis langleyensis, and an interesting Eulophia from Uganda.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), received a Silver Banksian Medal for a beautiful group of Odontiodas and Odontoglossums, the latter including O. illustre, the handsome O. Leonidas, O. Vulcan, and O. crispum Princess, a beautiful white form. A handsome Odontioda is mentioned under Awards.

S. Larkin, Esq., The Ridgeways, Haslemere (gr. Mr. Hale), received a Silver Banksian Medal for a small group, including some good Phalænopsis Schilleriana and the rare P. Aphrodite Kinlesideana, a fine Vanda tricolor, a series of Dendrobiums, Miltonias and Cypripediums, Cattleya Trianæ, Saccolabium violaceum Harrisonianum, and Lycaste tricolor.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. H. Day), sent Odontoglossum crispum Prince Albert, very regularly spotted with purple.

Lt.-Col. Sir George Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), sent a fine plant of Cattleya Schrœderæ The Baron, bearing four handsome flowers, the lip having a pale rose band round the orange disc.

W. Thompson, Esq., Walton Grange, Stone (gr. Mr. W. Stevens), sent a very finely-grown example: Odontioda Charlesworthii superba.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black), sent plants of Odontoglossum Thompsonianum, O. Groganiæ, O. armainvillierense album, and some brightly-coloured Odontiodas.

M. Firmin Lambeau, Brussels, sent a fine Miltonia (see Awards).

Messrs. Charlesworth & Co., Haywards Heath, received a Silver-gilt Flora Medal for a remarkably fine group, containing numerous beautiful Odontiodas, noteworthy among them being examples of Bohnhoffiæ, Bradshawiæ, Charlesworthii and Cassiope, a very fine series of Odontoglossums, one of which gained a First-class Certificate, the remarkable Bulbophyllum virescens, Brassia brachiata, some Oncidium sarcodes, a fine series of Brassocattleyas, the pretty little Capanemia uliginosa, Uropedium Lindeni, Cattleya Schrœderæ, Dendrobiums, Cypripediums, Cymbidiums, &c.

Messrs. Sander & Sons, St. Albans, also received a Silver-gilt Flora Medal for a large and very handsome group, in which Odontoglossums figured very largely, noteworthy among them being O. Troilus (elegans × amabile), O. Fire King (spectabile × crispum Graireanum), of glowing reddish salmon tipped with white, O. gandavense Emperor with dark violet flowers, and several others. There were also some fine Cattleya Schrœderæ, Cymbidium Devonianum and others, the rare Vanda Parishii Marriottiana, Chysis bractescens and C. langleyensis, Scuticaria Hadwenii, some brilliant Odontiodas, Dendrobiums, Cypripediums, &c.

Messrs. W. B. Hartland & Sons, Cork, received a Silver Flora Medal for a good group, containing numerous Odontoglossums, Odontioda keighleyensis, a fine lot of Cattleya Schrœderæ, Cypripedium Curtisii, Miltonias, &c.

Mr. E. V. Low, Vale Bridge, Haywards Heath, received a Silver Flora Medal for a choice group, including some good Cattleya Schroderæ, several Brassocattleya langleyensis, Cymbidium insigne, Dendrobium nobile virginale, D. Thwaitesiæ, D. chessingtonense var. J. M. Black, Cypripedium Euryades Vale Bridge var., Læliocattleya callistoglossa, and a pretty yellow-flowered Læliocattleya from L.-c. bletchleyensis and L. flava.

Messrs. Stuart Low & Co., Enfield, received a Silver Flora Medal for a fine group, including some good Oncidium concolor, Lycaste Skinneri alba, Brassocattleya Leemanniæ and langleyensis, a fine series of Dendrobiums and Odontoglossums, Lælia Latona, Læliocattleya Myra, Haroldiana, and highburiensis, the brilliant Renanthera Imschootiana, Epidendrum Stamfordianum, Cypripedium concolor, and others.

Messrs. Mansell & Hatcher, Rawdon, Yorks, received a Silver Flora Medal for a fine group, including the chaste Odontoglossum Pescatorei virginale, some good O. armainvilliersense and O. Rolfeæ, a fine O. Wilckeanum with white ground, O. Dora, O. Solon, O. Adrianæ, O. amabile and O. Andersonianum, Læliocattleya Wellsiana with white sepals and petals, some good Brassocattleyas, Brassolælia Gratrixiæ and Jessopii, Eriopsis rutidobulbon, Cattleya Schrœderæ, Dendrobium secundum, and a species of Megaclinium from Uganda, &c.

Messrs. Armstrong & Brown, Tunbridge Wells, received a Silver Banksian Medal for a good group of Odontoglossums, Odontiodas, Dendrobiums, Cypripedium Rothschildianum and others, Læliocattleya eximia, L.-c. Ernestii, L.-c. Merciana (L. flava × C. amethystoglossa), also a few good hybrids from L.-c. Pallas × L. flava, L.-c. Henry Greenwood × C. Lueddemanniana, and others.

Messrs. J. & A. A. McBean, Cooksbridge, received a Silver Banksian Medal for a good group, chiefly consisting of well-grown Odontoglossum crispum—one of which bore a spike with 52 flowers—with plants of Cattleya Schrœderæ, Ada aurantiaca, Epiphronitis Veitchii, Dendrobium Dearei, &c.

M. Maurice Mertens, Ghent, sent forms of Miltonia vexillaria.

M. A. A. Peeters, Brussels, showed Miltonia Bleuana var. Laeken, a large white form with a crimson blotch at the base of the lip.

FIRST-CLASS CERTIFICATES.

MILTONIA BLEUANA PEETERSIÆ (Roezlii × vexillaria).—A remarkable variety, having large white flowers with a deep rose-purple blotch at the base of the petals, and a similar blotch in front of the crest of the lip. The plant bore three spikes. Exhibited by M. Firmin Lambeau, Brussels (gr. Mr. E. Demunter).

ODONTOGLOSSUM OSSULSTONII, SHRUBBERY VAR. (spectabile × Pescatorei Charlesworthii).—A large and very richly-coloured form, having the lower two-thirds of the sepals and petals heavily blotched with claret-purple, and the apex white, the lip also white with a purple blotch at the base. Exhibited by Messrs. Charlesworth & Co.

AWARD OF MERIT.

ODONTIODA ROSEFIELDIENSIS (C. Noetzliana × O. triumphans).—A brilliantly-coloured and handsome hybrid, having carmine-red sepals and petals, and a yellow lip with some crimson blotches. Exhibited by de Barri Crawshay, Esq. (See note on next page).

AT the meeting held on April 25th there was again a fine display, and the awards consisted of six medals, two Awards of Merit, and two Cultural Commendations.

Orchid Committee present: J. Gurney Fowler, Esq., in the Chair, and Messrs. J. O'Brien (Hon. Sec.), de Barri Crawshay, Gurney Wilson, W. Bolton, J. S. Moss, A. Dye, J. E. Shill, J. Cypher, W. H. Hatcher, A. A, McBean, H. G. Alexander, T. Armstrong, F. M. Ogilvie, F. Sander, F. J, Hanbury, R. G. Thwaites, S. Low, Harry J. Veitch, and Clive Cookson.

G. W. Bird, Esq., Manor House, West Wickham (gr. Mr. H. Redden), staged a very charming little group of Odontiodas and Odontoglossums, some twenty plants in all. They were mostly hybrids raised in the collection, and were arranged with maidenhair ferns (Silver Banksian Medal).

S. Larkin, Esq., The Ridgeways, Haslemere (gr. Mr. Hale), also received a Silver Banksian Medal for a good group of Phalænopsis, Cattleyas, Cypripediums, Odontoglossums, Læliocattleya Gottoiana, Vanda suavis, &c.

Sir Trevor Lawrence, Bart., Burford (gr. Mr. W. H. White), sent two plants of Brassocatlælia Triune (L.-c. Hyeana × B.-c. langleyensis), a fine rosy hybrid with some purple veining on the lip, and an Odontoglossum mentioned under Awards.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent several pretty hybrids, including Odontoglossum Leonidas, O. Quintus (Hunnewellianum × spectabile), O. Dirce (harvengtense × armainvillierense),

Odontioda gattoniensis, and O. rosefieldiensis, having bright red flowers, with some deep yellow in the lip. The plant exhibited at the last meeting under the latter name was now stated to be a variety of O. Vuylstekeæ, and the award was withdrawn.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. J. Davis), sent two plants of the handsome Brassocatlælia Fowleri.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. H. Day), sent the handsome Odontoglossum percultum Goodson's var., having violet-purple sepals and petals, and the lip dark violet at the base and white at the apex.

M. H. Graire, Amiens, exhibited Odontoglossum Rossianæ var. flavida having cream yellow flowers spotted with chocolate red.

Baron Bruno Schröder, The Dell, Egham (gr. Mr. E. Shill), sent a fine three-flowered inflorescence of Brassocattleya Queen of Spain, having pretty rose-tinted flowers with the fringed lip rich purple-crimson in front.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black), sent the chaste Odontoglossum Pescatorei virginale, O. Clyte with a fine panicle of nine branches, O. Thompsonianum, the brilliant Odontioda Zephyr, and Cattleya Dusseldorfii Undine.

Messrs. Sander & Sons, St. Albans, staged a very fine group, to which a Silver Flora Medal was given. It contained some very fine Cattleya Schrœderæ and Mendelii, Anguloa uniflora, A. Ruckeri, Acanthophippium bicolor, the striking Dendrobium Harveyanum, Cœlogyne pandurata, some fine Læliocattleya Hyeana from a new batch, some brilliant Odontiodas, a fine lot of Odontoglossums, &c., also two others which gained awards.

Messrs. Charlesworth & Co., Haywards Heath, received a Silver Flora Medal for a very fine group, including some good plants of Trichopilia Backhouseana, Oncidium Marshallianum, Odontioda Diana, O. Lambeauianum, O. Cassiope, and others. Odontonia Lairessei, the pretty Cynorchis kewensis with four spikes, the handsome Sophrocatlælia Marathon, with Brassocattleyas, Læliocattleyas, Odontoglossums, Cypripediums, &c.

Messrs. Cypher & Sons, Cheltenham, also received a Silver Flora Medal for a fine group, including numerous Cattleyas, Cypripediums, Odontoglossum tigrinum, excellens, and others, Cymbidium Lowianum and var. concolor, Chysis bractescens, Dendrobium Dearei, Lælia purpurata, several good Odontioda Bradshawiæ, Miltonia Phalænopsis and vexillaria, Renanthera Imschootiana, the pretty Restrepia elegans, &c.

Messrs. Stewart Low & Co., Bush Hill Park, received a Silver Banksian Medal for a good group, including some fine Dendrobiums, Cattleyas, and Læliocattleyas, Miltonia Roezlii, Oncidium lamelligerum, Odontoglossum Rolfeæ, two fine Odontioda Charlesworthii, and many others.

Messrs. Duchesne & Lanthoine, Watermael, Brussels, showed a fine plant of Miltonia vexillaria memoria G. D. Owen, with two splendid spikes.

Messrs. Hassall & Co., Southgate, exhibited a pretty little group, including Dendrobium Brymerianum, a few good Odontoglossums, Trichopilia Backhouseana, Odontioda Charlesworthii, Epidendrum Stamfordianum, &c.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent Dendrobium Wardianum album and several pretty hybrids, the rare Bulbophyllum Sillemianum, Odontoglossum crispum Jeanette, and other good things.

Messrs. J. & A. A. McBean, Cooksbridge, sent good examples of Cattleya Mendelii and C. Schrœderæ, Miltonia vexillaria, a fine Odontoglossum armainvillierense, O. crispum xanthotes, and other well-grown forms.

Mr. H. A. Tracy, Twickenham, sent Gongora Tracyana, an interesting Peruvian species of recent introduction.

AWARDS OF MERIT.

DIACATTLEYA SANDERÆ (C. Mendelii × Diacrium bicornutum).—An interesting and pretty novelty, having white Cattleya-like flowers, tinged with pink, and the lip entire and somewhat open, with a light yellow disc. Exhibited by Messrs. Sander & Sons.

ODONTOGLOSSUM RAMOS-EDWARDII (ramosissimum × Edwardii).—A pretty hybrid, most like the former parent in shape, with a much branched inflorescence, the sepals and petals being undulate, and white spotted with purple. Exhibited by Sir Trevor Lawrence, Bart.

CULTURAL COMMENDATIONS.

CYMBIDIUM EBURNEUM.—A large and well-bloomed specimen. Exhibited by Lieut.-Col. H. Powys Greenwood, Whitsbury House, Salisbury.

MAXILLARIA SANDERIANA.—A very fine specimen, bearing thirteen of its handsome flowers. Exhibited by Messrs. Sander & Sons.

NORTH OF ENGLAND HORTICULTURAL.

THE North of England Horticultural Society held the first of a series of monthly meetings at the Emmanuel Hall, Leeds, on March 22nd last, when there was a very good display, and a number of medals and awards were given by the Orchid Committee. The awards are termed Northern Diplomas, first, second, and third class.

The Orchid Committee was present as follows :—C. J. Backhouse, Esq., in the Chair, and Messrs. Gurney Wilson (Hon. Sec.), J. Cypher, J. Cowan, F. Corney, A. J. Keeling, H. A. Inness, J. T. Barker, A. J. Hall, W. Shackleton, W. Mansell, G. Taylor, F. C. Puddle, W. H. Hatcher, and J. Elwood.

J. H. Craven, Esq., The Beeches, Keighley (gr. Mr. F. Corney), was awarded a Silver-gilt Medal for a fine group, including some excellent

examples of Odontioda keighleyensis, one of which gained an award. Odontoglossum crispum, O. Ceres, Cattleya Trianæ alba, Læliocattleya luminosa, Lycaste Skinneri alba, Cypripedium Mrs. Wm. Mostyn, &c.

W. H. St. Quintin, Esq., Scampston Hall (gr. Mr. F. C. Puddle), exhibited Cypripedium Psyche Scampston var. (bellatulum × niveum), a very pretty white variety with minute purple spots.

Major Rogerson, Heatherdale, Spencer Road, Harpenden (gr. Mr. Price), staged the handsome Odontoglossum crispum Leonard Perfect with a spike of eleven flowers, a good form of O. mirum (crispum × Wilckeanum), and another which is mentioned under Awards.

Messrs. Mansell & Hatcher, Rawdon, received a Gold Medal for a very fine group, containing some good Odontoglossum crispum, both pink and white, Miltonia Bleuana, Brassocattleya Maronii, Trichopilia suavis, a very fine Læliocattleya Dominiana, Odontioda Charlesworthii, Oncidium concolor, Cypripediums, and three others which obtained awards.

Messrs. Charlesworth & Co., Haywards Heath, received a Silver-gilt Medal for a group of well-grown Orchids, including several fine Phaius Norman, Cattleya Empress Frederick, Odontoglossum eximium and other good Odontoglossums, a charming form of Sophrocatlælia Marathon, several pretty Odontiodas, and a Brassocattleya mentioned under Awards.

Messrs. James Cypher & Sons, Cheltenham, received a Silver-gilt Medal for a fine group, including a large plant of Cymbidium Lowianum, Lycaste Skinneri alba, Læliocattleya Ophir, Cypripedium Helen II., some good Cattleya Schrœderæ, Sophrocattleya Saxa, and another (See Awards).

Mr. H. A. Inness, Monkend Gardens, Darlington, received a Silver Medal for a good group, including Odontoglossum eximium Monkend var., and other Odontoglossums, Cypripedium Deedmanianum, C. aureum Surprise, C. nitens, C. Euryades, C. villosum Stewartii, and others.

Messrs. Keeling & Sons, Bradford, received a Silver Medal for a good group, containing a well-flowered Dendrobium superbum, Cypripedium callosum Sanderæ, some good Oncidium concolor, Masdevallias, &c.

Mr. W. Shackleton, Great Horton, Bradford, exhibited Odontoglossum crispum roseum, O. c. Milky Way, with very minute dots on the segments, and another good form of the species.

Messrs. Hassall & Co., Southgate, sent Cattleya Lueddemanniana southgatense, a large-flowered form, Odontoglossum Jasper (crispum × amabile), O. Dora, and others.

Mr. Alva J. Hall, 12, Parliament Street, Harrogate, sent a few well-grown plants of Cypripedium Lathamianum, C. Clio, C. Euryades, C. T. B. Haywood, C. Gowerianum, &c., a Vote of Thanks being given.

First Diplomas.

Brassocattleya Veitchii Queen Alexandra (C. Mossiæ Wagener

× B. Digbyana).—A charming variety, having white flowers with a tinge of green in the throat of the lip. Exhibited by Messrs. Charlesworth & Co.

ODONTOGLOSSUM MANSELLIÆ (Vuylstekeæ × Harryanum).—A distinct and handsome form, having flowers of good shape, the sepals and petals nearly covered with claret-purple blotches, margined with yellow. Exhibited by Messrs. Mansell & Hatcher.

SOPHROCATTLEYA WELLESLEYÆ (S. grandiflora × C. labiata).—A charming hybrid with deep rose-coloured flowers. Exhibited by Messrs. Cypher & Sons.

SECOND DIPLOMAS.

DENDROBIUM PLUMPTONENSE (D. Cybele nobilior × D. nobile nobilius).—A richly-coloured hybrid, approaching the latter parent in colour. Exhibited by Messrs. Mansell & Hatcher.

CYPRIPEDIUM BRIDGEI (Argus × Godseffianum).—A well-shaped flower, with dark brown blotches on the dorsal sepal. Exhibited by Messrs. James Cypher and Sons.

LYCASTE MARY GRATRIX (macrophylla × Skinneri).—A well-grown plant, to which a Cultural Commendation was also awarded. Exhibited by Messrs. Mansell & Hatcher.

ODONTIODA KEIGHLEYENSIS GLORIOSA (C. Nœtzliana × O. cirrhosum). —A large and richly-coloured form. Exhibited by J. H. Craven, Esq.

ODONTOGLOSSUM EXIMIUM LILY WILKINSON (armainvillierense × crispum).—Flowers large and heavily covered with confluent purple blotches. Exhibited by Major Rogerson.

ODONTOGLOSSUM PHŒBE GLENBURN VAR. (cirrhosum × crispum).—A well-shaped flower with mauve-purple blotches. Exhibited by Wm. Mathieson, Esq., Glenburn, Horseforth, near Leeds (gr. Mr. Gilchrist).

At the second monthly meeting, held on April 19th, a number of good Orchids were shown, and the awards consisted of five medals and six Northern Diplomas.

J. H. Craven, Esq., Keighley (gr. Mr. F. Corney), staged a beautiful group of well-grown Cattleyas, Læliocattleyas and Odontoglossums, a Silver Flora Medal being awarded.

Messrs. Mansell & Hatcher, Rawdon, staged a very fine group, occupying half of the central stage, which gained a Silver-gilt Medal. It included some fine examples of Cattleya Schrœderæ, Chysis bractescens, Odontoglossum crispum, triumphans, Rolfeæ, Andersonianum, and other Odontoglossums, with Odontioda Jessopiæ (O. Queen Alexandra × C. Nœtzliana), a brilliant carmine flower shaded with magenta and the crest yellow, Læliocattleya G. S. Ball, Cypripedium niveum, C. bellatulum, C. Veronique, &c., and two others which are mentioned under Awards.

Messrs. Charlesworth & Co., Haywards Heath, also received a Silver-gilt

Medal for a brilliant group, including many fine hybrids, noteworthy among them being examples of Odontoglossum Aireworth, Lambeauianum, armainvillierense, Jasper, Dora, Solon and concinnum, some good specimens of Cattleya Schrœderæ, C. Empress Frederick, Brassocattleya Veitchii, Oncidium concolor, O. sarcodes, &c., with two others (See Awards).

Messrs. A. J. Keeling & Sons, Bradford, staged a good group of Orchids, including Cymbidium insigne, Brassocattleya Veitchii Queen Alexandra, Cypripedium hirsutissimum, C. Gowerianum, Dendrobiums, &c., a Bronze Medal being awarded.

Mr. E. V. Low, Vale Bridge, Haywards Heath, also received a Bronze Medal for a good group, including Cattleya Lueddemanniana, C. intermedia alba, Dendrobium nobile virginale, D. chessingtonense, Læliocattleya highburiensis, Cypripedium aureum Surprise, and other good things.

Mr. W. Shackleton, Bradford, sent a small group of Cypripediums.

NORTHERN DIPLOMAS, FIRST-CLASS.

Cattleya Mendelii Dainty, shown by J. H. Craven, Esq.

Cypripedium Lawrenceanum Hyeanum G. S. Ball's var., and Odontoglossum Jasper, shown by Messrs. Mansell & Hatcher.

NORTHERN DIPLOMAS, SECOND-CLASS.

Cypripedium niveum Oakdene var., shown by Major Rogerson, Harpenden (gr. Mr. W. C. Price).

Odontonia Lairessei and *Zygocolax* Charlesworthii, shown by Messrs. Charlesworth & Co.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

A meeting was held at the Coal Exchange, Manchester, on March 30th, when the Committee was present as follows: Messrs. E. Ashworth (Chairman), R. Ashworth, H. Thorp, C. Parker, J. Cypher, Z. A. Ward, H. H. Smith, and P. Weathers (Hon. Sec.).

Two fine groups of Odontoglossums were the chief feature of this meeting, and were sent by R. Ashworth, Esq., and Z. A. Ward, Esq. Both were awarded Silver-gilt Medals. In Mr. Ashworth's group Odontoglossum Pescatorei var. xanthotes, a chaste form, received a First-class Certificate, similar awards being given to O. percultum var. Uncle Tom, and O. eximium var. excelsis. Awards of Merit were given to O. Blue John, O. eximium var. Topsy, and O. Pescatorei Ashworthiæ. In Mr. Ward's group O. amabile var. Georgius, a beautiful form, received a First-class Certificate.

F. R. Hesse, Esq., W. Didsbury, exhibited Epidendrum virgatum, which received a Botanical Certificate.

J. H. Craven, Esq., Keighley (gr. Mr. Corney), exhibited Odontoglossum amabile var. King George V., a fine form, which was awarded a First-

class Certificate, while O. Orpheus (O. eximium × O. Orispum var. augustum) received an Award of Merit.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), staged a small group, in which was Odontioda Bradshawiæ var. Scarlet Pimpernel (Award of Merit).

Messrs. Sander & Sons, St. Albans, staged a good group, consisting of forms of Cattleya Schrœderæ, Odontoglossums, &c. (Silver Medal).

Votes of Thanks were accorded to the following members for various exhibits, viz., Messrs. Robson, Charlesworth, Craven, Birchenall, Cowan, Shackleton, Wrigley, and Thorp.

P. W.

ODONTIODA BOLTONII.

THE annexed figure represents the handsome Odontioda Boltonii, which was exhibited at the R.H.S. meeting held on March 28th last by Mr. W. Bolton, Warrington. An error occurred in our record at page 121, and

Fig. 19. ODONTIODA BOLTONII.

Mr. Bolton, in sending the photograph, informs us that the parents were Odontoglossum Vuylstekeæ and Cochlioda Nœtzliana, the former being the seed parent, to which he attributes the large size of the flower, which measures over $2\frac{3}{4}$ inches across. It is very beautiful in every respect, the flower being spotted and mottled nearly all over with rosy scarlet on a light yellow ground. It should develop into a magnificent thing when the plant becomes strong, this being its first flower.

CALENDAR OF OPERATIONS FOR MAY.

BY J. T. BARKER, THE WEST HILL, HESSLE, E. YORKS.

ALL our plants will now be on the move, and every encouragement should be given to induce them to build up their growths quickly. At the same time they should not be forced, and we must take care that growth is properly solidified, so as to be able to withstand the various hardships it may have hereafter to encounter. Soft sappy growth, although perhaps extremely large, does not always produce the most, or the best flowers; therefore our aim should be to grow our plants under those conditions which enables them to solidify themselves as they grow.

TEMPERATURES.—The temperatures recommended for April will apply also to this month, but should the weather prove mild and sunny, a slight rise will do no harm, especially if the various houses are kept well charged with atmospheric moisture. The Cool house should be kept as near the following figures as possible:—

Day, 60° to 65°; night, 60° (if a shade lower no harm will accrue).

Speaking of temperatures, I may add that it is not from slight variations of a degree or two that harm occurs, but from drastic fluctuations, say of seven to ten degrees, and for several hours together. If these occur at this time of year, when all new growth is young and tender, irreparable damage is done; therefore care must be taken to keep them near the given figure.

MOISTURE.—As the weather gets brighter and warmer, more moisture must be maintained in the houses, to keep our plants in a healthy condition, and as a preventive of insect pests. When the weather is hot, the floors and staging of our houses cannot be kept too wet.

WATERING.—The plants will now take up considerable quantities of water, but still all plants should be watered with caution, for, depend upon it, success or failure is the result of the amount of intelligence we bring to bear upon this branch of our practice.

SHADING.—Great care must be taken in the way we treat our plants in respect to shading, for to some the sun is life, but to others too much of it is absolute death. I am firmly convinced that direct sunshine paralyses some of our plants; and I must ask my readers to constantly use their powers of observation, which will be found one of the greatest aids to good cultivation.

CYPRIPEDIUMS.—The potting of the winter-flowering section should be brought to a conclusion as soon as possible, for the longer the season of growth they get the better. The summer-flowering section, such as C. Lawrenceanum, niveum, Godefroyæ, Curtisii, and the various hybrids from them, should be cleaned and placed in their flowering quarters.

CATTLEYAS.—Cattleyas, Lælias, and Læliocattleyas now coming into flower should be thoroughly cleaned, and the flowering growths neatly

staked up, and if possible a house devoted entirely to them where the atmosphere can be kept a little drier, and the temperature a little cooler, which will be the means of the flowers lasting much longer, and more comfortable to those who wish to see them. Push on with the potting of those which have passed out of flower, and are in the state that requires it. I always try to keep C. Schrœderæ, C. Mendelii, and C. Mossiæ in a house a few degrees lower than the hybrids, as I find the latter will stand a higher temperature, and be the better for it.

DENDROBIUMS.—D. Phalænopsis Schrœderianum will now be pushing forth its new growth rapidly, and any that require it should be repanned or repotted. The best receptacles for this class of plant are shallow pans, which can be suspended. The warmest house suits them best, very little shade being necessary, and this only during the hottest part of the day. The compost recommended for Dendrobiums last month will suit them admirably. D. formosum will also succeed under the same conditions, and where the plants have commenced to grow, and are pushing forth new roots, they may also be repanned. D. infundibulum and D. Jamesianum will succeed grown in the same way in a cool intermediate temperature instead of a warm one, and when well grown they are most beautiful and useful.

Epidendrum vitellinum is now pushing up its flower spikes, and must not be allowed to suffer for want of water. Before the spikes get very far advanced the plants should be thoroughly cleaned. This class of plant mixed with the Cattleya family when in flower gives an additional charm.

Anguloas and Lycastes which have passed out of flower may now be repotted, if they require it, using the compost recommended for the green-leaved Cypripediums. A shady place in a cool Intermediate house is the proper place for these plants.

CYMBIDIUMS that require repotting may now be done. Such species as C. eburneum, Lowianum, grandiflorum (Hookerianum), Tracyanum, giganteum, and any of their varieties and hybrids, which have passed out of flower, and are on the point of making new roots from the young growths, may be done at this season. The compost I recommend is equal parts fibrous peat and loam, with a fair quantity of sphagnum moss and coarse silver sand. It should be used rather rough, and the plants should be potted moderately firmly, and much like an ordinary plant. After repotting great attention must be given in applying water, as over-watering at this stage means absolute ruin, one good watering after the plant has been repotted will suffice for some time. They will thrive in a cool part of the Intermediate house, where they can be shaded from direct sunshine.

ONCIDIUM MACRANTHUM and its allies, when throwing up spikes or opening their flowers, should have attention in training the spike in the way it is required, either fan-shaped or round stakes; it makes no difference

whichever style is used. The object in this class of plants is to get all the flowers looking one way, and therefore the plant should not be turned round whilst opening its flowers, as they all turn to the light. Any plants of these species having failed to flower, or having had their spikes removed through not being strong enough to flower, may be repotted, this being done when they are making new roots from their young growths. The compost I recommend is the same as used for Odontoglossums. The coolest, dampest position in the Odontoglossum house suits these plants.

ODONTOGLOSSUMS of the grande, Insleayi, and Uroskinneri section which require repotting, and have commenced to make roots from their new growths, may be done at this season, using the compost as for other Odontoglossums. This section may now be placed at the warm end of the Odontoglossum house, where they will thrive best during the hot months.

SOBRALIAS that are showing their flower spikes, if at all pot-bound, will benefit by an occasional watering with weak liquid manure water, which will be a great aid to them in developing their flowers. In fact, manure water is beneficial to all terrestrial Orchids when in full growth or when pushing up flower spikes.

STANHOPEAS are not now seen as much as they deserve, but where they are grown some will now require potting, and may be attended to at this season. They should all be grown in baskets suspended from the roof of the Warm house, frequently sprayed overhead and under their leaves, to prevent the ravages of red spider, which will often attack them. A suitable compost for them is equal parts of peat, osmunda fibre, and sphagnum moss. The compost should be made moderately firm, and carefully watered until the new growths get well advanced.

ZYGOPETALUM Mackayi and crinitum will now perhaps require repotting. They must have ample rooting space, but should not be over-potted or buried, so to speak. A suitable compost for them is equal portions of peat, osmunda fibre, and sphagnum moss, with the addition of a little fibrous loam, mixed well together, and used in a fairly rough state. After repotting they should be placed at the cool end of the Intermediate house, and should be protected even from weak sunshine. When in full growth and well rooted, they should have liberal supplies of water to the roots, and should be frequently sprayed overhead.

GENERAL REMARKS.—Continue to wage warfare with all insect and other pests by hand-cleaning, fumigation, and other means. Keep the atmosphere of all the houses sweet by the admission of air on all favourable occasions, as the health of our plants depends on their needs being satisfied, and a supply of fresh air is as essential as a supply of water. Let cleanliness reign supreme in all matters, and, if possible, rather let us err on the side of over-cleanliness than otherwise.

ORCHIDS AT BUITENZORG, JAVA.

THE following note is taken from a very interesting series of papers by M. F. Henkel, entitled, "A Journey to Japan," now appearing in the *Gardeners' Chronicle*:—

"The Orchid garden at Buitenzorg is sheltered by a tree of Cephælis (Evea) borbonica, which bears scented, yellowish fruit. The bark is very rough, and Grammatophyllum grows on the stem. Some of the pseudobulbs of this Orchid are three to five yards in length. Thousands of flowers are developed on a single plant, which sends its roots around the tree to collect the necessary food. All over the Orchid garden, in regular lines about one yard distant from each other, are small trees of Plumeria acutifolia. Only a few branches are left at the top of each tree, and on all are planted some kind of Orchid. The collection comprises inconspicuous as well as large-flowering species. Dendrobium crumenatum abounds on nearly every tree and shrub. Palms and Conifers are covered with it. In Ceylon I observed the plant in flower on April 7, and in Buitenzorg on April 29 and May 26. In certain localities all the plants of Dendrobium crumenatum flower at the same time, every four to eight weeks; and all the flowers open in the forenoon, some a little earlier and some a little later than others. The pseudobulbs are sometimes 1½ yards long; they branch freely, and the plant forms large masses. Plants of Juniperus funebris and Podocarpus are sometimes covered with this lovely Orchid in flower. The same evening all the flowers fade, and not a single flower-bud is left to open the next day. Other Orchids are also plentiful on wild trees. One of the least showy, but most interesting, is Tæniophyllum, which does not produce foliage, the green, flat roots, which grow over the mossy bark, performing the functions of the leaves. The small, yellowish flowers are produced on a small stem near where the roots originate, and the seed pod is nearly as heavy as the whole plant. Cattleyas, Cypripediums, and some other Orchids, especially those which require a dry season at times, are grown under glass roofs. Terrestrial Orchids are planted in beds. Spathoglottis are especially plentiful in private gardens in the neighbourhood, where they flower freely in large pots. Phalænopsis also succeeds very well, and the plants flower freely on trees of Canarium planted as an avenue by Teysmann."

ONCIDIUM CONCOLOR VAR. RHODOPTERA.—A striking variety of Oncidium concolor has appeared in the collection of Mr. H. A. Tracy, of Twickenham, among plants of the type. The upper part of the column wings are red, and the stigma is also margined with the same colour, forming a decided contrast with the typical form.

ORCHIDS IN SEASON.

A FLOWER of the handsome Odontoglossum percultum Goodson's var. (Rolfeæ × Pescatorei Charlesworthii) is sent from the collection of H. F. Goodson, Esq., Fairlawn, Putney, by Mr. G. H. Day. The sepals and petals are almost uniformly violet-purple with lilac tips, and the apex of the lip white.

A large and handsome form of Odontoglossum Wilckeanum is sent from the collection of Alwyn Harrison, Esq., Watford. The flower measures four inches from tip to tip of the petals, the latter being 1¼ inches broad, and well toothed. The colour is light yellow, with three large blotches on the sepals, and one on the petals with a few smaller spots. It is one of Mr. Bolton's seedlings.

Several handsome Orchids are sent from the collection of G. Hamilton-Smith, Esq., Finchley, by Mr. Coningsby. Læliocattleya Merciana (C. amethystoglossa × L. flava) is represented by a seven-flowered spike, the flowers being cream-coloured, with a few purple dots at the apex of the petals, and the front lobe of the lip purple. A flower of Cattleya Dusseldorfii is from a small seedling obtained from the Westfield collection as C. intermedia White Queen × C. Mossiæ Arnoldiana. It has blush pink sepals and petals, and the lip has a light purple blotch in front. There is also a fine form of Cattleya Mendelii with flesh pink sepals and petals, and the front lobe of the lip purple. Odontoglossum amabile Queen Alexandra crossed with a fine spotted crispum has yielded a hybrid of good shape, and very heavily blotched with claret-purple. The question of a suitable name is difficult in such a case, but Mr. Coningsby suggests that it might be considered a variety of O. amabile, as the additional amount of crispum influence introduced by the new cross is barely sufficient to constitute a new hybrid. Lastly may be mentioned a handsome seedling from O. crispum Britannia × O. c. Fortunatus, now flowering for the first time. The ground colour is suffused with rose, and both sepals and petals have a few large claret-coloured blotches, these being less confluent than in the seed parent. It is a seedling flowering for the first time.

ODONTIODA CUPID.—A very charming hybrid raised by Messrs. Armstrong and Brown, Tunbridge Wells, from Odontoglossum ramosissimum crossed with the pollen of Cochlioda Noetzliana, and now flowering for the first time, with a three-flowered spike. The flowers have rather broader sepals and petals than the Odontoglossum, and are very undulate and deep rose in colour, the three lobed lip being of similar colour, and the crest consisting of four parallel white keels. Mr. Armstrong states that the flowers showed the Cochlioda colour when first opening, but soon changed to rose. It should develop into a very striking thing.

ORCHID NOTES AND NEWS.

A MEETING of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, on May 9th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Society's Spring Flower Show will be held at the Inner Temple Gardens, Thames Embankment, on Tuesday, Wednesday and Thursday, May 23rd, 24th and 25th. The Orchid Committee will meet at 10.30 a.m. Class 1 is devoted to Orchids, and Silver Cups and Medals will be awarded according to merit.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on May 11th and 25th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 4 o'clock p.m. The last meeting completes the Society's year.

We are informed by Mr. E. V. Low, Vale Bridge, Haywards Heath, that Mr. H. Cheal, lately with Messrs. McBean, of Cooksbridge, has entered his service, as sole representative and traveller, from April 24th last.

ORCHID PORTRAITS.

BRASSOCATTLEYA VEITCHII VAR. QUEEN ALEXANDRA.—*Journ. Hort.*, 1911, i. p. 329, with fig.

CYCNOCHES PENTADACTYLON.—*Journ. Hort.*, 1911, i. p. 305, with fig.

DENDROBIUM MURICATUM VAR. MUNIFICUM, Finet.—*Bot. Mag.*, t. 8371.

DENDROBIUM NOBILE.—*Journ. Hort.*, 1911, i. p. 353, with fig.

LYCASTE LOCUSTA.—*Gard. Chron.*, 1911, i. p. 260, fig. 117.

ODONTIODA VUYLSTEKEÆ VAR. LADY COLMAN.—*Gard. Chron.*, 1911, i. p. 213, fig. 96.

ODONTOGLOSSUM JEANETTE.—*Gard. Chron.*, 1911, i. p. 194, fig. 86.

ODONTOGLOSSUM OSSULSTONII SHRUBBERY VAR.—*Gard. Mag.*, 1911, p. 301, with fig.

ODONTOGLOSSUM SPLENDIDISSIMUM OAKWOOD VAR.—*Gard. Mag.*, 1911, p. 279, with fig.

ODONTOGLOSSUM SWIETENICOLOR.—*Gard. Chron.*, 1911, i. p. 210, fig. 93.

SPATHOGLOTTIS VEILLARDII VAR. RUBRA.—*Journ. Hort.*, 1911, i. p. 377, with fig.

ANSWERS TO CORRESPONDENTS.

J.C.H.—Apparently a Bletia, but the species uncertain till the flowers appear.

J.F.S.—Lanium Berkleyi, Rolfe.

Photographs received, with thanks.—E.O., N.G.

Catalogue received.—Priced Catalogue of Orchids from Mr. H. A. Tracy, Orchid Nursery, Amyand Park Road, Twickenham, containing a large selection of species and hybrids.

We have received from the Agricultural and Horticultural Association, 92, Long Acre, London, W.C., a copy of the "One and All Gardening Books," Chrysanthemums, by Richard Dean, V.M.H.; Price one penny, and well illustrated.

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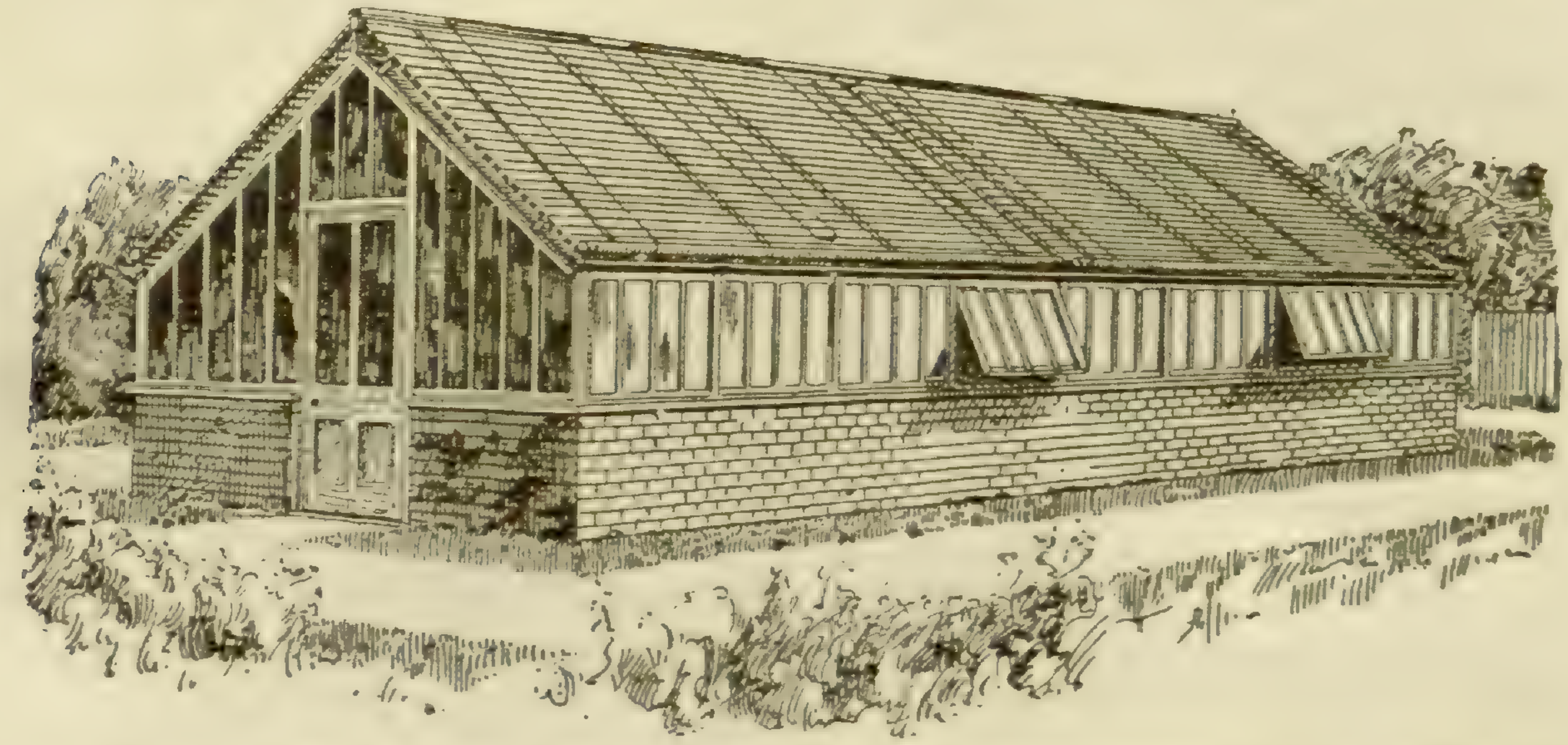

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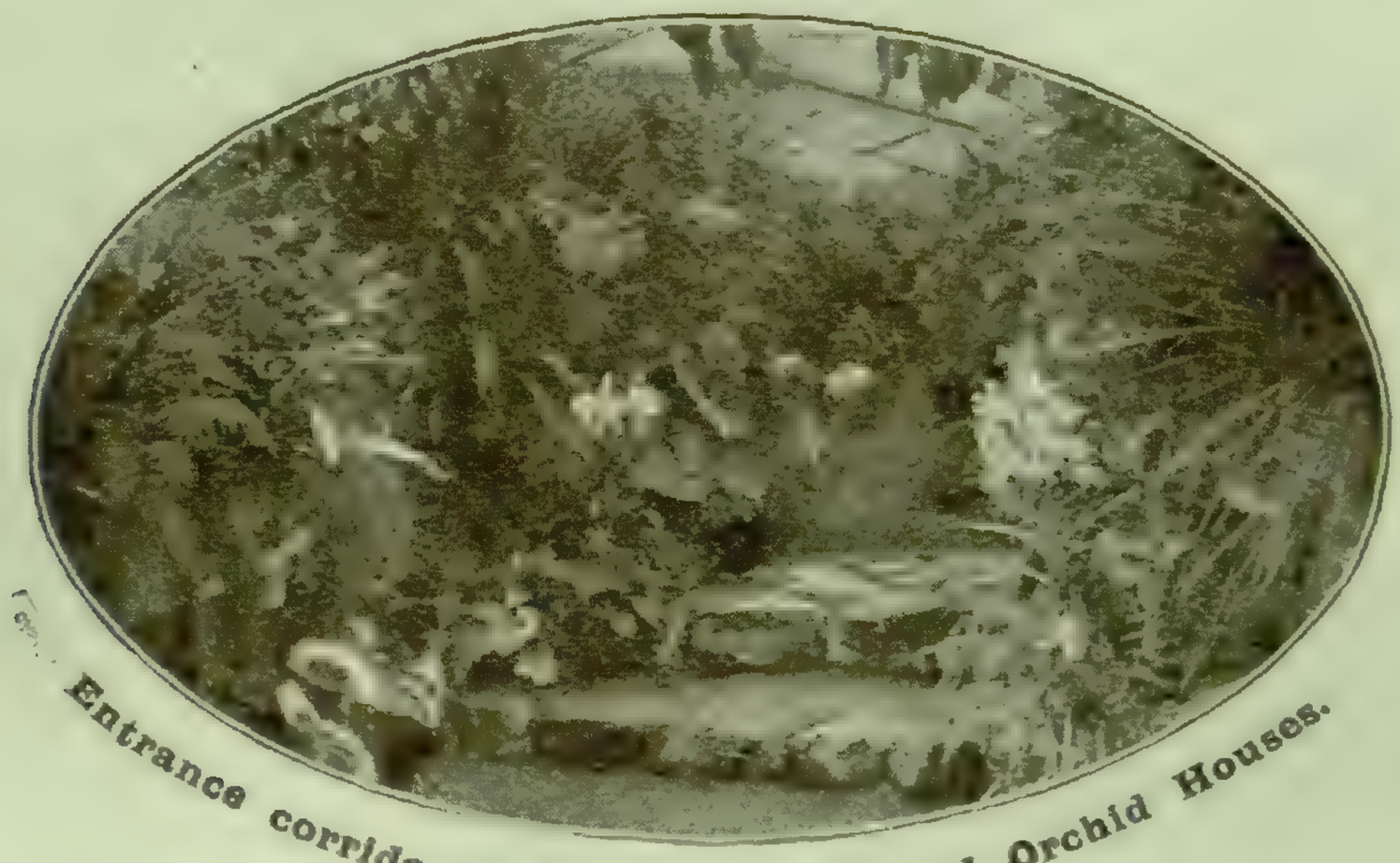

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VOL XIX., No. 222. THE JUNE, 1911.

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An Illustrated Monthly Journal.

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THE ORCHID REVIEW.

VOL. XIX.] *JUNE*, 1911. [No. 222.

OUR NOTE BOOK.

THE event of the month has been the great annual spring show of the Royal Horticultural Society in the Inner Temple Gardens, which, it has been suggested, may be the last of the series in these historic grounds. It is to be abandoned next year in favour of the great International Horticultural Exhibition to be held at Chelsea at about the same date, but whether it will be resumed in 1913 or transferred to some other locality must be left for the future to decide. The chief disadvantage of the present site is the limited space, which, while handicapping the exhibits, entails positive discomfort on the visitors, especially when the weather is as fine and genial as on the present occasion. It is to be hoped that the experience gained at Chelsea may point the way to some satisfactory way out of the difficulty. But it is time we came to the exhibits.

The display of Orchids was remarkable in every respect, quality and culture being excellent, and the number present certainly too great for the space at disposal, which led to positive crowding in a few instances. The Show reflected the enormous progress made by the hybridist during recent years, for never before were hybrid Odontoglossums, and their brilliant allies, the Odontiodas, shown in such numbers and of such excellence. They were a feature of almost every group, and there can be no question of their increasing popularity. The blotched Odontoglossums allied to O. crispum formed a remarkable series, and it was curious to notice that almost all of them were hybrids of artificial origin—a point to which our attention was called by one of our leading amateurs of Odontoglossums, who is also a very successful raiser. It is a curious reflection that only a few years ago we were lamenting the difficulty of raising Odontoglossums from seed. But much has happened since then, and events point to a further great advance. Indeed we are only now realising the enormous possibilities of the future.

We shall now look forward to the next great event at Olympia, where another grand display may be anticipated, though the coming International

may prevent some of our amateur exhibitors from putting in an appearance, as was indeed to some extent the case at the Temple. Among Orchids, as elsewhere, coming events cast their shadows before, and we know that certain plants are resting this year in anticipation of the big event.

ORCHIDS AT CHELSEA.

FIFTY years ago the Establishment for New and Rare Plants was founded at Chelsea by the late Mr. William Bull, and in order to celebrate its Jubilee, the present firm of Messrs. William Bull & Sons arranged a show of Orchids and other flowers, which was held from May 15th to 20th, in the Conservatory forming the entrance to their establishment in the Kings Road. It recalled, in some respects, the exhibitions that were held there annually some years ago, though less exclusively devoted to Orchids than formerly. On this occasion the Orchids were arranged on either side of a winding path to the right of the central aisle, with a background of foliage and other plants, forming a very picturesque effect. The Odontoglossums made a beautiful display, prominent among them being a batch of about a dozen seedling O. crispum, showing much variation in the amount of spotting. O. c. Mikado is a fine form, having a zone of large cinnamon-brown blotches on the segments, while O. c. Florence has larger and darker blotches. O. c. Premier has very broad, much fringed segments, each of which bears a large chestnut-brown blotch. O. c. Diadem and O. c. The Kaiser were also good, the latter having much purple blotching on the flower. Another, which had only produced its first bloom, had a single very deep chestnut blotch on each segment, and should develop into a fine thing. Several forms were pointed out as being from the same capsule, and showed a great amount of variation, and it may be added that some unspotted forms had also appeared among them, and some of quite ordinary shape. One very handsome form is figured on page 177, from a photograph, but this had been disposed of at the time of our visit. A number of imported O. crispum were also included, with some good examples of O. Pescatorei, O. triumphans, a few good O. Adrianæ, some prettily spotted hybrids from O. Wilckeanum and O. Hallii, with various others.

Læliocattleyas were represented by a fine series of L.-c. Baden-Powellii (C. Lawrenceana × L. tenebrosa), some fifty plants being exhibited out of about 250 that have bloomed. They varied somewhat, but the general colour may be described as vinous purple, while the shape of the lip most resembled C. Lawrenceana. There were also some good L.-c. Aphrodite, Brassocattleya Thorntoni, Brassolælia Helen, a number of fine Cattleya Mossiæ, C. Mendelii, and a good example of Lælia Statheræ, the hybrid between L. flava and L. purpurata.

There were also some well-grown examples of Dendrobium Wardianum,

thrysiflorum, Pierardii, Vanda tricolor, V. suavis, Oncidium Papilio, some pretty clumps of O. concolor, Maxillaria Sanderiana, Odontioda Bradshawiæ, and several plants of the pretty O. chelseiensis, which were flowering very freely. Various other things might be enumerated, but we now passed into the general houses, where a number of other interesting things were in bloom or in spike.

On entering an Odontoglossum house we first noticed a little batch of Odontioda chelseiensis, several being in bloom and others in spike. It is free-growing and floriferous, and very distinct in colour. A number of other seedling Odontiodas were pointed out, some of which are nearly large enough to bloom. This house was almost entirely devoted to seedling Odontoglossums, in the raising of which the firm has been very successful. Several plants were in bloom of a batch raised from O. crispum General Roberts crossed with the pollen of the very distinct O. c. Black Prince, and in each case the very dark colour of the latter predominated. They were small plants flowering for the first time, some with only a single bloom, but are extremely promising. A few seedlings out of the batch are said to have been unblotched. A batch of O. Edwardii × armainvillierense was beginning to throw up spikes, in one case on the first made bulb. In another the spike had been stopped and had produced three side branches. All were very vigorous, and in one case the flowering bulb was about four inches long and very stout. Several forms of O. Brandtiæ (Pescatorei × luteopurpureum), were in bloom, and differed considerably in shape and in the amount of spotting.

Another house was largely devoted to seedling Odontoglossums, and here we saw a very pretty hybrid between O. Andersonianum and O. spectabile, in which the spotting on the segments was very copious, and warm brown in colour, while the Harryanum crest was very marked. A few well-blotched forms of O. eximium were in bloom, and a seedling Odontioda Bradshawiæ in bud. A few Cochlioda Nœtzliana were also flowering here.

In another house a large number of smaller seedlings are grown, indeed they were here in every stage, for Mr. Lakin, who has had charge of the department for a good many years, pointed out seeds that were only just turning green before losing their characteristic shape, and from this they could be traced through every stage of germination and onward up to plants of flowering size. They germinate with the utmost freedom, the temperature being kept a little warmer than that in which established plants are usually grown. Many very promising crosses were pointed out, including a plant of O. Rossii × crispum of nearly flowering size. It is one of a small number of O. Rossii hybrids which have been raised. A few nice little plants of Oncidium tigrinum × maculata were also pointed out.

We also entered two of the houses largely devoted to seedling Cattleyas and allies, and found a large number of plants in thriving condition. C. Pittiana was in bloom, with some plants of C. Mossiæ and Mendelii, Lælia purpurata, L. Statheræ, a good Brassolælia Jessopii, and Epidendrum Burtoni with three spikes. A batch of C. Schrœderæ × Læliocattleya warnhamensis has proved very variable, and there were some with buff-yellow or salmon-coloured sepals and petals, and the front lobe of the lip purple, while others were without any purple, thus forming partial reversions to Lælia cinnabarina. Some of the former were very promising, being good in shape and colour.

It is interesting to find that hybrid Orchids can be raised with so much success close to London, and we must congratulate Mr. Henry Bull, the acting partner of the firm, and his able manager, Mr. Lakin, on their achievements.

ORCHIDS AT TUNBRIDGE WELLS.

ABOUT the end of April last we had the pleasure of paying a long-promised visit to the establishment of Messrs. Armstrong & Brown, of Tunbridge Wells, and the following notes will supplement those given by Mr. Harrison at pp. 106-108, which were taken in December last, when a totally different set of plants were in bloom.

The situation is an open one, with a southern aspect, and nine of the houses extend from a lean-to corridor, 130 feet long, having a southern aspect. This is occupied chiefly by Dendrobiums, Cattleyas and allies, the plants being suspended in rows from the roof, where they thrive amazingly. There is a narrow stage at the back, which at one end was chiefly occupied by flowering Dendrobiums. Nine houses extend from the corridor, running due north and south, and thus they get a maximum of light all day long. They are 50 feet long, and eight of them are 12 feet broad, the other being 21 feet; and all are shaded by lath roller blinds, running horizontally a few inches above the roof. The ventilation and internal arrangements are on the latest principles, and the culture of the plants is excellent in every respect. The establishment is largely devoted to seedling raising, in which the firm has been remarkably successful, and it may be remarked that Mr. Armstrong had several years' experience in charge of the Selly Hill Collection, Birmingham, which was distributed about seven years ago, after which he settled in business at Tunbridge Wells. The progress made in seven years is remarkable.

The first house is chiefly devoted to Cattleyas and allies, a nice lot of which were in bloom, noteworthy among them being Brassolælia Helen, four plants of the charming Læliocattleya Merciana, L.-c. Lysidas, a form of L.-c. Venus, and Cattleya Dusseldorfii, all raised in the collection; also

a very fragrant hybrid from C. amethystoglossa × Schrœderæ, and another from L. Jongheana × L.-c. elegans, with plants of the handsome Phaius Norman, a well-bloomed Lycaste aromatica, Cœlogne tomentosa, and several fine plants of the handsome Cypripedium Statherianum (Mastersianum × Victoria Mariæ. We also noted a large number of capsules. Some of the plants stood on a very useful stand of Mr. Armstrong's own design. It is practically a flower pot with four or five large openings at the sides, which permit a free circulation of air, this being a great improvement on the ordinary flower pot on which the plants are often elevated.

The next house is devoted to Cattleyas and Cypripediums, the former chiefly seedlings of large size. Among the Cypripediums we noted a lot of C. glaucophyllum, several of which were flowering freely. They are stood here and there on the side and end walls of the house, and thus are in a slightly cooler and more airy position than if on the stages, where Mr. Armstrong remarks the Cattleyas do not succeed. They occupy a similar position in other houses, and about four dozen were in bloom, and very beautiful they were. A batch of C. Rothschildianum crosses of various kinds were pointed out, all in robust health. A hybrid from C. Leeanum giganteum × Sanderianum was bearing a two-flowered scape, the flowers being most like the second parent, the dorsal sepal acuminate and striped with purple-brown, and the petals narrow and nearly four inches long. C. ciliolare has been crossed with both C. Chamberlainianum and C. Victoria-Mariæ, and about a dozen of each were in bloom, the hybrids being robust and very floriferous. C. Franconia is another fine thing, derived from C. calloso-Rothschildianum × C. callosum Sanderæ. Mr. Armstrong has repeated the cross between C. Sallieri Hyeanum and C. Spicerianum, the former in this case being the seed-parent, and, as in the case of the original C. aureum, the seedlings have proved remarkably variable in colour. Several of them were in bloom, including yellow and spotted forms, also some with purple suffusion on the dorsal sepal. A number of Cattleya seedlings were suspended over the centre path, and were in thriving condition.

The next house was devoted mainly to Cypripediums, and contained some fine forms of C. Mrs. Wm. Mostyn, the parentage of which Mr. Armstrong has proved by re-crossing C. Boxallii with C. Calypso. They vary somewhat, but include forms identical with the original, which was also there for comparison. C. Leeanum Clinkaberryanum × insigne Harefield Hall is a fine thing with a prettily blotched dorsal sepal, and C. Chamberlainianum × Druryi is a strong grower with a racemose inflorescence. C. Mons. de Curte × nitens aureum was also very effective, and we noted fine examples of C. Rothschildianum, C. Deedmanianum, and others. The plants generally are in the most robust health.

Then came a house largely devoted to seedlings of the Cattleya group, and about half of one side was devoted to Brassavola Digbyana crosses, one charming white form being in bloom, namely, Brassocattleya Maronii alba, in which a white C. Mendelii was one of the parents. Some good Dendrobium nobile virginale were in bloom, including the original plant from which the large batch of seedlings was raised. Others in bloom were D. chessingtonense, with a fine large form obtained from D. nobile elegans × D. Rubens, a plant of Epidendrum Boundii, and several Miltonia Bleuana. A lot of Dendrobiums were suspended over the path.

A cool Cypripedium house followed, containing a large batch of winter-blooming kinds, the majority being out of bloom, but promising a fine display when the proper time comes. A good C. Victoria-Mariæ was in bloom, also C. aureum Surprise from the new batch, with a few others. Oncidium pulchellum is suspended from the roof here, the plants being six years old and in thriving condition, with plenty of spikes pushing up. We have seldom seen this species doing so well, and believe that it is often grown in too much heat.

We now came to an Odontoglossum house containing numbers of fine things in bloom, including the charming Odontioda Cupid, which was described at page 159. We noted a very fine form of Odontoglossum mirum (crispum × Wilckeanum), with broad, well-toothed petals, and the ground colour white with numerous brown blotches, some good forms of O. Fascinator (Adrianæ × crispum), O. Andersonianum, one having three side branches and thirty-one flowers, O. Thompsonianum, a number of the very variable O. Adrianæ, O. eximium, O. loochristiense, O. spectabile, a fine home-raised O. Wilckeanum with fifteen flowers, O. Ossulstonii, a fine specimen of the charming O. nævium—on which we noticed a seed-pod—O. Edwardii, various forms of O. crispum, O. spectabile, O. sceptrum, O. warnhamense, &c. A large number of seedlings have been raised in the collection, and a constant succession of them are now reaching the flowering stage. Among a lot of Odontiodas we may mention a batch of Cochlioda Nœtzliana × Odontoglossum Cervantesii, about three years old, and in thriving condition. There were also plants of Sophronitis grandiflora in bloom, and Promenæa citrina in bud.

Another Cattleya house followed, and here again some good things were in bloom, including fine forms of Læliocattleya Olivia, L.-c. Paradise, the pretty little Lælia Gwennie, a very brilliant hybrid from Cattleya Rothschildiana × L.-c. George Woodhams, C. Lueddemanniana × L.-c. Greenwoodii, Lælia Jongheana × L.-c. elegans, and others. A very fine batch of Cattleya Fabia was pointed out, and here again a lot of seedlings were suspended over the paths, in addition to those on the stages.

Two other warm houses must be passed over quickly; suffice it to say

that they contained a large number of healthy seedlings, with a few interesting things in bloom. We then entered a house chiefly devoted to choice Cypripediums, and here we saw several plants in bloom of an interesting cross from C. callosum Sanderæ × Maudiæ, most resembling the former, but the dorsal sepal veined with green nearly to the apex: also many of the pretty C. Helen II., a very fine C. triumphans, C. Chapmanii, a pretty form of C. Vipani, and several others, with plants of Cœlogyne pandurata. The majority of the Cypripedes are out of flower at this season, but many choice things were pointed out.

In the house devoted to raising the seedlings everything is well adapted to the purpose, and the inmates are in correspondingly thriving condition. Here we saw a healthy batch of the old Cypripedium Dauthieri in bloom, and it was pointed out that they are used as beds for raising the young seedlings on, and with great success. Cypripedium seedlings are rather capricious in the manner of their appearance, and no better seed bed can be found than the compost in which healthy plants are growing. Cattleyas and their allies are mostly raised on canvas strained over pots of moss, and here the young seedlings were coming up like the proverbial mustard and cress, while the other seedlings were in equally thriving condition.

We now entered the large lean-to house to the north of the Corridor, some 85 feet long by 20 feet wide, and here we found a large number of Odontoglossums in flower and spike, O. crispum being grown in quantity, and the plants are very vigorous and in excellent condition generally. One O. Pescatorei was bearing a panicle of remarkable strength, and on counting we found that there were twelve side branches and an aggregate of 112 buds. It will be a picture of beauty when the flowers expand. Some plants of O. Edwardii were also flowering freely. Masdevallias of the coccinea group were exceptionally vigorous, and throwing up lots of flowers. Mr. Armstrong uses a considerable quantity of leaves in the compost for Masdevallias, and with the best results, for the plants are pictures of health. This is entirely a north house, and completely shaded from the sun by the high Corridor, but the cool Orchids thrive remarkably well, the light in winter being very good in this open locality. The temperature sometimes falls to 50° in winter, though it usually fluctuates between 50° and 60°. Cymbidiums are also grown here with great success, C. eburneum and others being in bloom. There were also some good forms of Lycaste Skinneri, and numerous other interesting things.

The whole establishment is well-planned, and the culture throughout of the highest quality, while the success attained by the firm in raising seedlings is remarkable. In fact the establishment is largely devoted to raising hybrids, which are present in quantity in every stage, and include a large number of choice crosses, several of which have already bloomed. One of

the greatest hits made by Mr. Armstrong was the raising of a batch of Dendrobium nobile virginale from self-fertilised seed, the whole of which came true albinos, thus enabling this charming variety to be grown in quantity. The history of the cross has already been given (*O.R.*, xvii.

Fig. 20. HOUSE OF DENDROBIUM NOBILE VIRGINALE.

pp. 200-202), and it may be interesting to reproduce the figure of a house of over 200 plants in full bloom. Messrs. Armstrong & Brown must be congratulated on the great progress they have made, and in the excellent condition of the establishment generally.

ODONTOGLOSSUM CRISPUM VAR. CORONATION.

OF blotched forms of Odontoglossum crispum the name is legion, and the number is rapidly increasing, owing to the facility with which they can now be raised from seed. The one here figured was raised by Messrs. Willlam Bull & Sons, Chelsea, it is said from O. c. King Alfonso crossed with the pollen of O. c. Franz Masereel—the latter a well-known variety which was figured at page 113 of our sixth volume. The flower is of very good shape, having broad white segments, with a slight rosy tinge, and a

Fig. 21. ODONTOGLOSSUM CRISPUM VAR. CORONATION.

very large red-brown blotch on each, forming an irregular zone about the middle, while the lip also bears several spots round the bright yellow crest. The petals are distinctly toothed, and the blotches on the flowers are thrown up well by the broad white margin. It is very distinct from O. c. Franz Masereel, though certain points of resemblance can be traced. It would have been interesting to compare it with the other parent, and particularly with other seedlings out of the same capsule, which, as usual, showed a considerable amount of variation.

THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON.

COOL HOUSE.

ONE of the main points to be observed in this, and the following months, is to keep the temperature during the day as low as possible, as this can only be done by heavy shading, ventilation, and frequent damping. During this month it is advisable to syringe the paths, stagings, walls of the house, and the coke beneath the staging, at least three times a day, but if exceptionally bright weather prevail, it should be done more frequently. The plants will also derive much benefit from a gentle spraying overhead, about half-an-hour after the blinds have been lowered, and again about five p.m. All potting operations should now be completed. During this hot weather the plants dry quickly, and every Orchid should be examined daily to see that it is in an even state of moisture. Tie up all flower-spikes as soon as they are of sufficient length, as, if allowed to grow loosely, they are liable to be broken.

CATTLEYA HOUSE.

Here increased moisture is most necessary, and damping should be done the first thing in the morning, again at midday, and about five p.m. The occupants of this house do not need so much shading as those of the Cool house, but it will be advisable to lower the blinds from 11 a.m. till 2.30 p.m., or later in bright weather. The plants should be well sprayed overhead when the shading is down, and the house well charged with moisture. A temperature ranging from 65° to 80° Fahr. must be maintained, and should dull and cold weather set in, it will then be advisable to use a little fire-heat, as the house must not be kept closed to maintain the necessary temperature, for it is of the utmost importance that fresh-air be admitted at all times. Towards the end of the month, top air can be given on warm nights, besides that admitted by the bottom ventilators. Stage all plants in bloom at one end where they can be kept shaded, thereby causing the flowers to remain for a greater length of time in perfection.

SUGGESTED ADDITIONS.

CYMBIDIUM TRACYANUM.—For the warmest end of the Cool house, this is a species which I should strongly advise every amateur to possess, as it is a free-flowering Orchid, and the blossoms continue over six weeks in beauty, and are produced on long semi-erect spikes during the spring. The sepals and petals are greenish yellow, lined with dark red-brown, whilst the lip is white with blotches of deep brownish crimson. This fine Orchid should now be starting into growth again, after the short rest which follows upon its flowering period.

CATTLEYA ENID.—Of the many gorgeous hybrids which have been

raised in this genus, there is no doubt as to this being one of the best. Its parents are C. Warscewiczii (gigas) and C. Mossiæ, and it usually produces its large and highly-coloured flowers during this month, and if kept cool and shaded will continue three weeks in perfection. The sepals and petals are of a deep shade of mauve, whilst the lip is of immense breadth, of a similar shade, with a front lobe of purple, and orange-yellow markings. I prefer growing this handsome Cattleya in the warmest part of the house, where it makes stronger bulbs than if placed at the cooler end.

CŒLOGYNE PANDURATA.

OF all the beautiful members of the genus Cœlogyne, there is none which is more striking than this fine Bornean species. It makes broad flattened pseudobulbs of large size, furnished with two leaves of great breadth and of somewhat coriaceous texture. When the new growth is about half developed, a long spike of large and beautiful flowers is produced from the apex, this usually being in May and June. The sepals and petals are of a pretty shade of emerald green, the lip of a creamy white, with numerous black markings, which form a very striking contrast.

Unfortunately this is an Orchid which I cannot recommend to every amateur grower, on account of the great heat needed to bring it to perfection. The following will serve as a rough guide as to the temperatures required by this plant:—Spring, 65°-75° Fahr.; Summer, as warm as possible; Autumn, 66°-75° Fahr.; Winter, 60°-70° Fahr. The most suitable position for this plant is in a moist warm corner of an early Melon or Cucumber house. I, however, obtain great success with it by growing it in a low well-heated brick-sided frame, built on to the end of a Cattleya house. To ensure dampness in its immediate vicinity at all times—a most important point—it is best to stand this Cœlogyne on an inverted pot, placed in a deep pan kept continually full of water.

From the time that growth begins, usually in December, till the flowers have faded and the growth is matured, which is about the end of September, the plant must never be allowed to become dry. From December till the beginning of April, a good dose of water is required every alternate day, but afterwards every day till September. Then when the new bulb is completed, decrease the supply of water to once every three days, until a fresh start is again made. Liberal syringings over the leaves should be given daily from the middle of April till the beginning of September.

Cœlogyne pandurata should be grown in a shallow Orchid-pan. When re-panning this plant, remove it carefully from the old receptacle, trim the roots, *i.e.*, cut away all that are dead, and leave only two pseudobulbs to support the lead; the others are of no use to the plant, and only take up nourishment from the new growth. Have a fresh pan filled almost entirely

with clean broken crocks. On these set the plant, and only use a very little soil, sufficient to cover the roots and to extend up to the base of the bulbs. It should consist of a mixture of polypodium fibre, oak leaves and sphagnum moss. These ingredients should be well mixed together, finely chopped up, and used in a damp state. Re-panning is usually needed every three years, and should be done when the new growth is about two inches in length.

This Orchid must be kept heavily shaded throughout the year, and should never be subjected to a lower temperature than 60° Fahr. at any season. For those who can, however, maintain this amount of heat, there does not exist a more floriferous and striking species. When all the blossoms have expanded, it does no harm to place the plant for three weeks in a cooler house, and the flowers will remain much longer in perfection.

Cœlogyne pandurata is not an expensive Orchid, a healthy plant of flowering size being procurable for half-a-guinea. Briefly its culture may be summed up as follows: Abundance of heat and moisture, and much shade.

C. ALWYN HARRISON.

AWARDS OF THE R.H.S. COMMITTEES.—The following letter has been sent by the Council of the R.H.S. to the Chairman of Committees:—

"Dear Sir,—I am desired by the Council to recall to the minds of the members of the committees the high merit which should be represented by all the Awards, Certificates, and Medals of the Society. It is probably to be expected that the number of Awards should increase slightly year by year, but there exists a constant danger of their too lavish bestowal. It should, therefore, be a matter for constant watchfulness that the relative standards of merit be fully maintained, and that none of the Medals, &c., should become depreciated by neglect in the use of the Award ranking below it. If, for example, the use of the Bronze Medal is allowed to lapse, t can only result in the equivalent depreciation of the next higher Awards, which, in turn, will have a tendency to fall out of use and depreciate those still higher; until at last little value would attach to even Gold Medals. The value attaching to each Medal can only be upheld by maintaining the appropriate value of the medal ranking below it, and so on in descending scale. The value attaching to the Society's Bronze Medal is, therefore, the primary factor of the value which attaches to the highest Gold Medal, and whatever depreciation the Bronze Medal suffers, the Silver and Gold will inevitably reflect in their turn. The Council therefore urge the committees to make greater use of the Bronze Medals, regarding them as very honourable Awards suited to groups and collections which require something more than a mere 'Vote of Thanks.'—Faithfully yours, W. WILKS, Secretary."

CALENDAR OF OPERATIONS FOR JUNE.

By J. T. BARKER, The West Hill, Hessle, E. Yorks.

SINCE my last the weather has taken a most desirable change, and the conditions for the last three weeks or so have been all that could be desired, the result being that the plants, especially those that require heat and light, have made rapid progress.

TEMPERATURES may remain at the figures given last month, with a slight increase during mild and sunny weather.

COOL HOUSE.—The Cool house must be kept as cool as possible, and the atmosphere must at all times be kept in a humid condition.

VENTILATION AND SHADING.—Great attention must be given to ventilation and shading, as by this means the temperatures are regulated during the day, and the two combined must be used in such a manner that no excessive fluctuations are allowed.

ATMOSPHERIC MOISTURE.—In all the houses a moist humid atmosphere must be maintained, not only to assist the plants in making clean, healthy growth, but also to prevent the ravages of thrip and other insect pests. Damping down and spraying must be done whenever the temperature appears to be dry or stuffy, for if the houses appear uncomfortable to us, they are equally so to their inmates.

FLOWERING PLANTS.—Houses in which the flowering plants of the different families are placed may be kept a little drier and cooler than those in which the plants are that are making their growth, but great care must be taken that the temperature at night does not fall too low, for if the atmosphere is too heavily charged with moisture the flowers will become spotted and ruined. All plants that are not in good condition should not be allowed to carry their flowers after they are open. I have never seen any ill effects from a strong healthy plant carrying its crop of flowers until they fade in a natural manner.

CATTLEYAS.—C. Warscewiczii (gigas) and its allies will now be in active growth, and must have liberal supplies of water, and should also occupy the lightest position in the house. The earliest of them will already be showing their flower sheaths, and those that are not doing so will have the sheath formed in the growths, that is if they are going to flower this season. Withholding water after this date, as an inducement to the plant to flower, is a practice that I do not recommend, and will do no good, but, on the contrary, a great deal of harm, as a plant that is half-starved (so to speak) for want of water never reaches the same size and stature as a properly nourished one. C. Mossiæ and Mendelii will now be in full flower, and as soon as they pass out of bloom may be repotted, should they require it, in the compost recommended for Cattleyas in a previous number, being

very careful in the watering of them until well-rooted, otherwise the new compost may become sodden.

CALANTHES.—The deciduous Calanthes will now be well-rooted, and must have more liberal supplies of water, with an occasional watering of weak manure, or soot water. Great care must be taken that the water is of the same temperature as the house, and that the compost is sufficiently dry before it is applied. Many cases of spot, I am fully convinced, are attributable to too much moisture.

CYMBIDIUMS.—The species and hybrids of this genus may be repotted at this season, should they require it, and will succeed in the compost recommended for the green-leaved Cypripediums. They should be potted in well-drained pots or pans, like an ordinary plant, and not elevated above the rim of the pot. Cultivate the plants in a cool intermediate temperature the whole year round. They delight in a supply of fresh air at all times, and if grown at all too hot, become infested with insect pests.

DENDROBIUMS.—Many of the evergreen section of this genus, such as D. thrysiflorum, densiflorum, Farmeri, and others, will now be starting new growth, and may require repotting. If so, this is the best season to do it. They succeed in a compost made up of equal parts of peat, osmunda, polypodium fibre, and sphagnum moss, and should be potted moderately firmly, and grown at the warm end of an Intermediate house.

EPIDENDRUM PRISMATOCARPUM will now be in full bloom, and any plants that require repotting may have attention as they pass out of flower. The conditions under which Cymbidiums succeed suit the requirements of this plant, which is not satisfactorily grown by everyone. The compost recommended for Cattleyas will suit it, and it should be grown in well-drained pots, being careful with the water pot until it is nicely established.

LÆLIAS.—Lælia majalis is now throwing up its spikes, and until the spikes are well advanced should only have sufficient water to keep the plant from shrivelling, as a too liberal supply will cause the spikes to damp off. Many failures to flower this plant satisfactorily are, I believe, entirely due to this cause. Any L. Gouldiana and autumnalis that were not in a fit condition for repotting when the general collection of these was done, if now making new roots, may still be done, as I am sure that there is nothing like a sweet healthy rooting medium if we are to be successful in cultivating this class of plant, which many find rather difficult to keep and flower regularly for a series of years.

MILTONIAS.—Miltonia vexillaria, with its many varieties of hybrids, will now be in full flower, and making a good show, and as plants for show purposes are worth taking any amount of pains with while in flower, the plants should only have sufficient water to keep them from shrivelling, as injudicious watering at this time of year, will kill the young active roots; and

this will be a great check to the plant, whilst making the new growth that will produce flowers next season. Water should be freely poured on the stages and amongst the pots during all hot and very drying days.

THUNIAS, which are pushing up their flower spikes, will benefit with an occasional watering of weak manure water, and they may now be taken to a cooler house to expand their flowers, where they will last much longer, and the flowering season be thereby prolonged. Red spider and thrip must be looked for on these plants, and, as a preventative, they should be freely syringed on the undersides of the leaves on all bright days.

MASDEVALLIA TOVARENSIS, and a few of the smaller Masdevallias, which flower during the winter, may now be repotted with advantage, if they need a fresh supply of compost, and the old is at all decayed, or likely to be so before the time comes round for further attention. There is always one thought which come into my head when speaking of potting Orchids, and Orchid composts, and that is that some people expect to get good results from a plant that has been growing in the same compost for years, and, in fact, that has nothing whatever to grow in. Would they attempt to grow an ordinary plant under the same conditions? I am confident that the simpler we can make our conditions and the more rationally we can treat our plants, the greater amount of success we shall attain.

SOPHRONITIS GRANDIFLORA, and any hybrids from it that are making new roots may have attention at this season. I find that they succeed best at the cool end of the Intermediate house, grown in the same mixture as recommended for Cattleyas, and with proper attention there is no reason why anyone should not succeed with them. They make delightful coat flowers, and with them we get colours entirely new in the Cattleya family.

ODONTOGLOSSUM GRANDE, Insleayi, and others of this section, may be repotted at this season, using a compost of equal parts peat, osmunda, and polypodium fibre, mixed with a fair amount of sphagnum moss, and potted moderately firmly. They are best accommodated in the Cool house during the summer months, taking them to a house with a drier atmosphere, and a little higher temperature during the winter. The same remarks will apply to Odontoglossum citrosmum.

GENERAL REMARKS.—Our plants will now be about to commence their work for next season, and it should be every cultivator's aim to see that nothing on his part should be wanting, that every plant should, as far as possible, have every requirement satisfied. Difficult Orchids, as we call some of them, but are they really difficult, or is it want of knowledge on the cultivator's part? I think it is usually the latter.

Watch carefully for all our foes, namely, insect and other pests. What a blessing it would be if we could only exterminate them, and that should be our aim.

LYCASTE SKINNERI AT BRIDGE HALL, BURY.

A PHOTOGRAPH of a very beautiful group of Lycaste Skinneri has been sent by O. O. Wrigley, Esq., Bridge Hall, Bury, part of which is reproduced in the annexed figure. The species is a great favourite at Bridge Hall, where it is used largely for room and table decoration, the supply continuing for a long period. The flowers stand well in water, and their pure colours come

Fig. 22. GROUP OF LYCASTE SKINNERI.

out well under artificial light. We have seen the plants and noticed their remarkable vigour, and we believe they are grown under the method of culture usually recommended. Indeed the species is of the easiest possible culture if a suitable position is found for it in the Cool intermediate house. Being a terrestrial Orchid, it likes a little fibrous loam in the compost; it also likes an abundant supply of water at the root during the growing

season. If grown strongly it is remarkably floriferous, and only under such conditions is it seen to the best advantage.

That the species is cultivated with great success by Mr. Rogers is further evident from the figure of L. Skinneri alba, which is also reproduced from a photograph sent by Mr. Wrigley, and which represents a plant literally covered with flowers. This plant had two flowering bulbs, one of which is

Fig. 23. LYCASTE SKINNERI ALBA.

said to have produced twelve flowers, the other no fewer than nineteen, making thirty-one in a single season. It is a very beautiful specimen, and an excellent example of good culture. Mr. Wrigley and his able gardener must be congratulated on their success with this beautiful species, which we are afraid is sometimes neglected in the craze for showy novelties. The photographs were taken by Miss Wrigley.

SOCIETIES.

ROYAL HORTICULTURAL.

THE usual fortnightly meeting was held at the Royal Horticultural Hall, Vincent-square, Westminster, on May 9th, when there was a good display of Orchids, and the awards consisted of four Medals, one First-class Certificate, and three Awards of Merit.

Orchid Committee present: J. Gurney Fowler, Esq., in the chair, and Messrs. J. O'Brien (Hon. Sec.), Harry J. Veitch, R. Brooman White, F. Sander, Clive Cookson, Gurney Wilson, W. H. Hatcher, A. A. McBean, F. M. Ogilvie, Walter Cobb, W. H. Bound, J. Cypher, H. G. Alexander, J. Charlesworth, A. Dye, T. Armstrong, W. H. White, F. J. Hanbury, J. W. Potter, W. Bolton, and de Barri Crawshay.

John S. Moss, Esq., Wintershill, Bishops Waltham (gr. Mr. Kench), staged a very interesting group of seedling Odontoglossums, to which a Silver Banksian Medal was awarded. It contained a very varied series of O. crispum, the variety Kenchii being copiously blotched nearly all over with light purple, O. exultans (excellens × crispum), O. Maritana (sceptrum × Rolfeæ), and a remarkable series of O. Bella (crispum × bellatulum), most resembling a small blotched form of O. crispum, but varying greatly in shape and colour. A good Odontioda Bradshawiæ was also included.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent Odontoglossum Ganymede (elegans × Edwardii), O. Orion (Lucasianum × crispum), and two others which are mentioned under Awards.

F. Menteth Ogilvie, Esq., The Shrubbery, Oxford (gr. Mr. Balmforth), sent Cattleya Mendelii Shrubbery var., a beautiful white form having a much fringed lip, with the usual yellow disc, cut spikes of a large Odontoglossum Pescatorei and a branched O. crispum, a very beautiful specimen of Miltonia vexillaria virginalis with twelve spikes, and another which is mentioned under Awards.

Mrs. Norman Cookson, Oakwood, Wylam (gr. Mr. H. J. Chapman), exhibited a stand of single blooms of many fine blotched varieties of Odontoglossum crispum, including fine examples of O. c. Leonard Perfect, Grace Ruby, Chapmanii, with a number of good unnamed forms.

S. Larkin, Esq., The Ridgeways, Haslemere (gr. Mr. Hales), showed a good specimen of Lycaste gigantea, its large green flowers with a chestnut-brown fringed lip being very striking.

Pantia Ralli, Esq., Ashtead Park, Epsom, sent a good example of Cattleya intermedia alba.

R. Brooman White, Esq., Arddarroch, Garelochhead (gr. Mr. J. Smith), sent a fine series of cut spikes of Odontoglossum crispum, including many excellent varieties, and all well-grown.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Brassocatlælia King-Emperor (Brassolælia Veitchii × L.-c. Dominiana), a large and striking hybrid, having rosy-lilac sepals and petals, and a broad rosy-purple fringed lip, with some yellow and red in the throat.

W. Thompson, Esq., Walton Grange, Stone, sent a remarkable Odontoglossum, which gained a First-class Certificate.

Messrs. Sander & Sons, St. Albans, staged a very fine group, to which a Silver Flora Medal was awarded. It contained a remarkable series of Cattleya Schrœderæ, ranging from the pure white C. S. alba to the richly-coloured C. S. Vulcan, in which the lip was crimson purple in front of the orange-yellow disc, numerous good Brassocattleyas and Læliocattleyas, a fine series of hybrid Odontoglossums and forms of O. crispum, Odontioda Bradshawiæ and several others, some good forms of Dendrobium crystallinum, two being nearly white, the beautiful Trichopilia suavis alba, Cœlogyne nervosa, and numerous other interesting species and hybrids.

Messrs. James Cypher & Sons, Cheltenham, received a Silver Banksian Medal for a good group, including many fine Miltonia vexillaria and M. Bleuana, Cattleya Skinneri alba, Læliocattleya Dominiana, with other good Læliocattleyas and Brassocattleyas, Masdevallia Veitchiana, M. Arminii, M. bockingensis, several Odontiodas, and some well-flowered Odontoglossum crispum and hybrids.

Messrs. Stuart Low & Co., Bush Hill Park, Enfield, also received a Silver Banksian for a good group, at the back of which were many examples of Oncidium Marshallianum, sarcodes, ampliatum, &c., and in front a batch of the pretty Dendrobium crepidatum, D. thyrsiflorum, D. infundibulum, good examples of Cattleya Schrœderæ alba, C. Mendelii, C. Bertheauana, Brassocattleya langleyensis, Odontoglossum Rolfeæ, Gongora bufonia, and many others.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent a small group of very interesting things, including several excellent forms of Odontoglossum crispum, a fine specimen of Cypripedium Lawrenceanum, Cirrhopetalum Collettii, C. Amesianum, C. Roxburghii, &c.

Messrs. J. & A. A. McBean, Cooksbridge, also sent a good group, including fine forms of Cattleya Mossiæ, C. Mendelii Pearl McBean, C. M. striata, with purple lines on the petals, C. Schrœderæ alba. and the fine C. S. var. W. H. Cheal, a handsome Odontioda Vuylstekeæ, some good Odontoglossum armainvillierense, the pale yellow O. crispum aureum West Bank House var., and several other handsome forms of the species.

FIRST-CLASS CERTIFICATES.

ODONTOGLOSSUM ILLUSTRISSIMUM VAR. QUEEN MARY (Lambeauianum × armainvillierense).—A beautiful hybrid, having sepals and petals of a deep vinous purple, with a narrow margin of white, and a small white spot

at the base, the lip being broad and white, with purple blotches in front of the deep yellow crest. There is also much colour at the back of the segments. Exhibited by W. Thompson, Esq., Walton Grange, Stone (gr. Mr. W. Stevens).

AWARDS OF MERIT.

MILTONIA HYEANA (Bleuana × vexillaria).—A very beautiful hybrid, having large well-shaped blush-pink flowers, the lip being broad and rose-pink, with light purple-red markings in front of the yellow crest. Exhibited by F. M. Ogilvie, Esq., Oxford.

ODONTIODA ROSEFIELDIENSIS (C. Nœtzliana × Odontoglossum triumphans).—A handsome hybrid, having clear orange-scarlet sepals and petals, and the lip three-lobed, reflexed, yellow, tinged with red, and the crest of the lip bright yellow. Exhibited by de Barri Crawshay, Esq., Sevenoaks.

ODONTOGLOSSUM HARVENGTENSE CRAWSHAYANUM (crispum × triumphans).—A large and handsome form, having broad primrose yellow sepals and petals of good substance, blotched with light brown on the basal halves, and the lip light yellow, with chestnut brown blotches in front of the yellow crest. Exhibited by de Barri Crawshay, Esq.

NORTH OF ENGLAND HORTICULTURAL.

THE third monthly meeting of the above Society was held in the Emmanuel Hall, Leeds, on May 17th, when a few good Orchids were exhibited.

J. H. Craven, Esq., Keighley (gr. Mr. F. Corney), received a Silver Medal for a good group of Odontoglossums, Cypripediums, Læliocattleyas, and other Orchids, and a Cultural Commendation for a fine plant of Renanthera Imschootiana.

Messrs. James Cypher & Sons, Cheltenham, also received a Silver Medal for a fine group, including a lot of Miltonia vexillaria, Odontoglossums, Cypripediums, Masdevallia Heathii, M. peristeria, M. Benedictii, and other good Orchids.

Mr. J. E. Sadler, Berks., sent Cypripedium bellatulum album, C. b. Queen of Spain, and others.

THE TEMPLE SHOW.

THE twenty-fourth Great Annual Spring Show of the R.H.S. was held in the Inner Temple Gardens, Thames Embankment, from May 23rd to 25th, and was an unqualified success. The weather was bright and warm throughout, and so numerous were the visitors that the tents were uncomfortably crowded during the greater part of the time. Their Majesties King George and Queen Mary paid an early visit, about ten o'clock on the first day, and spent over an hour in examining the exhibits,

with which they were evidently much pleased. They were shown round by the President, Sir Trevor Lawrence, Bart., Sir George L. Holford, and Mr. Justice Grantham.

The Orchids were magnificent, and for richness and variety probably in advance of anything yet seen at the Temple, though there was a falling off in the ranks of amateur exhibitors, partly, perhaps, in view of the great International Show next year. The awards consisted of three Gold and six other Medals, three Silver Cups, six First-class Certificates, five Awards of Merit, and one Cultural Commendation. The Judges for Orchids were Messrs. H. J. Chapman, de Barri Crawshay, J. Gurney Fowler, H. Little, and F. Wellesley.

Orchid Committee present: H. J. Veitch, Esq. (in the chair), and Messrs. J. O'Brien (Hon. Sec.), Sir Jeremiah Colman, Bart., F. J. Hanbury, H. J. Chapman, de B. Crawshay, J. E. Shill, W. H. White, H. Little, H. Ballantine, A. A. McBean, R. G. Thwaites, Clive Cookson, Stuart Low, R. Brooman White, A. Dye, H. G. Alexander, W. H. Hatcher, Walter Cobb, W. Thompson, W. Waters Butler, C. J. Lucas, and W. Bolton.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gr. Mr. Collier), staged a magnificent group, occupying one and a half bays. The centre consisted of some excellent Odontoglossum crispum and others, with a number of the graceful O. Thompsonianum arching over from behind, and some good Miltonia vexillaria and other things in front, while on either side appeared a rich collection of Cattleyas, Læliocattleyas, brilliant Odontiodas, and many interesting botanical things. The Odontoglossums were a charming lot, and included O. Lady Roxburghe, Lambeauianum, Queen of Gatton, excellens, percultum, polyxanthum, and many others. We noted also a very fine Odontioda Bradshawiæ with a spike of twenty-one flowers, O. gattonensis, a fine O. Vulystekeæ, the rich scarlet O. V. Lady Colman, O. Papilio (C. Nœtzliana × O. warnhamense), a richly-coloured and strikingly-marked hybrid, O. chelseiensis, the beautiful Cattleya Dusseldorfii Undine, a nice lot of Cochlioda Nœtzliana, the violet-blue Dendrobium Victoria-Regina, D. Phalænopsis, Zygopetalum rostratum, and Perrenoudii, Eulophia Lubbersiana and Saundersiana, Masdevallia calura, melanoxantha and torta, the rare Sarcochilus Fitzgeraldi, Miltonia Phalænopsis, Bulbophyllum Godseffianum, galbinum and Lobbii, Maxillaria tenuifolia, Spathoglottis aurea, Oncidium pulchellum, Cymbidium Lowianum concolor, Eria pannea, Scaphosepalum antenniferum, Cœlogyne ochracea and aspersa, Brassodiacrium Colmanii, Nephelaphyllum pulchrum, Pleurothallis inflata, Cypripedium callosum Sanderæ, Colax jugosus, a Catasetum with female flowers, Cymbidium insigne, Trigonidium obtusum, &c., with two other handsome things which are mentioned under Awards.

Samuel Larkin, Esq., The Ridgeways, Haslemere (gr. Mr. Hales),

staged a very fine group of about a bay in extent, to which a Silver Cup was awarded. It contained some good Cattleya Mossiæ, C. Mendelii, and Lælia purpurata, brilliant forms of Odontioda Bradshawiæ, Charlesworthii, Vuylstekeæ and Cooksoniæ, three plants of Maxillaria tenuifolia, M. Sanderiana, some good Odontoglossum crispum, both white and spotted, O. amabile splendens, O. eximium Ridgways' var., a fine O. Wilckeanum, some good Renanthera Imschootiana, Anguloa Clowesii, Bifrenaria Harrisoniæ and var. pubigera, Vanda tricolor, Oncidium Gardnerianum, Larkinanum, and macranthum, Miltonia Bleuana and some good M. vexillaria, Cypripedium barbatum, bellatulum, and several good C. concolor, Brassocattleya langleyensis, and a very handsome Cattleya mentioned under Awards.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. Hopkins), sent Læliocattleya Grahame White (Phœbe × luminosa), having brilliant buff-yellow flowers, with the front lobe of the lip crimson purple and very undulate, also another which is mentioned under Awards.

M. S. Cooke, Esq., Kingston Hill, sent Cattleya Mossiæ Cooke's var., a good well-coloured form.

Mrs. Norman Cookson, Oakwood, Wylam-on-Tyne (gr. Mr. Chapman), sent Odontoglossum armainvillierense Peetersii, a handsome blotched form.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. H. Day), sent Odontoglossum amabile Frederickii, a handsome white form, densely spotted with red-purple on the lower parts of the segments.

M. H. Graire, Amiens, sent Odontoglossum Sappho (Fletcherianum × crispum), a prettily spotted form.

J. J. Holden, Esq., Southport (gr. Mr. R. Johnson), sent Cypripedium bellatulum Holdenii, a large and very heavily blotched form.

Baron Bruno Schröder and Sir Trevor Lawrence, Bart., sent handsome Orchids, which are mentioned under Awards.

Messrs. Sander & Sons, St. Albans, staged a magnificent group, one and a half bays in extent, and most effectively broken up by a dell on either side of the central group, a Gold Medal being awarded. The Odontoglossums were a remarkable feature, the forms and hybrids of O. crispum being numerous and excellent, and some of them stood on pedestals above the surface of the group, noteworthy among them being O. King Arthur (brugense × amabile), with thirteen large rosy flowers, closely blotched and marbled with purple. the richly blotched O. memoria King Edward VII., O. Black Douglas (Wilckeanum × Vuylstekeæ), a dark claret-red flower with a few white streaks and a narrow white margin, O. Aliceæ, O. Meteor (armainvillierse × amabile), O. speciosum (gandavense × armainvillierense), much spotted with plum purple, except at the apex and margin of the segments. O. crispum Thompsonianum, O. c. King George, a large white form, and

many others. The Cattleyas, Brassocattleyas, and Læliocattleyas were also excellent, and we noted some good examples of Miltonia St. Andre and vexillaria, Odontioda ornata (Odontoglossum Pescatorei Lindenii × Odontioda Vuylstekeæ), bearing a dense panicle of pretty light yellow flowers, regularly blotched with red, O. Bradshawiæ luminosa, a light rosy red form with a few markings, chiefly on the lip, the pretty dwarf O. Grairеana, a fine example of the remarkable Bulbophyllum virescens, B. Lobbii, some very good Renanthera Imschootiana, Vanda cœrulea, V. cœrulescens Boxalli, Dendrobium sulcatum, amethystoglossum, and hercoglossum, Aërides Crispianum with four spikes of bright rosy flowers, a well-bloomed Rhynchostylis retusa var. præmosa, Warscewiczella Wendlandii, Maxillaria Sanderiana, Oncidium pulchellum and macranthum, Notylia multiflora with five racemes, Stanhopea Wardii, Trichopilia Hennisiana, &c., with three other handsome Orchids which are mentioned under Awards.

Messrs. Charlesworth & Co., Haywards Heath, were also awarded a Gold Medal for a magnificent group, a bay and three-quarters in extent, in which Odontoglossums and Odontiodas were represented by a very fine series. We counted 34 of the latter, and a brilliant effect they made, there being several good O. Charlesworthii, Bradshawiæ—one bearing a large loose panicle—Vuylstekeæ, Cooksoniæ, Lutetia, and a very brilliant coloured O. Lambeauiana. The bright rose Oncidioda Charlesworthii and Miltonioda Ajax also stood out prominently. Odontoglossum was represented by a host of good things, including brilliant forms of O. crispum, white and blotched, Fascinator, eximium, Lambeauianum, nævium, Othello and Dora, O. Scottianum (oakwoodiensis × armainvillierense), O. percultum Blue Bird, O. illustrissimum Black Prince, and others too numerous to mention. There were also some good Cattleya Lawrenceana and C. Mossiæ, C. Whitei, the remarkable C. intermedia Aquinii, and many others, forms of Læliocattleya Fascinator, Dominiana, Golden Glory, Ballii and L.-c. Boylei Kerchoveæ Brassocattleya Veitchii, and var. Queen Alexandra, a very handsome B.-c. Vilmoriniana, Sophrocattleya Chamberlainii, with a bank in the centre where Phalænopsis amabilis was very effectively combined with Miltonia vexillaria, Bleuana and Odontoglossums. We noted also some good Lælia purpurata, Vanda tricolor, Oncidium Marshallianum, macranthum, phymatochilum, and pulchellum, Renanthera Imschootiana, Eriopsis biloba, Catasetum trifidum, a well-bloomed Lycaste Lawrenceana, Gongora bufonia and Scaphephorus, Phalænopsis Stuartiana, a few good Cochlioda Nœtzliana, Anguloa Clowesii, Acineta Humboldtii, Brassovola Perrinii, Chysis bractescens, Rodriguezia secunda, a pretty hybrid from Cypripedium glaucophyllum and Fairrieanum, most like the former in habit and the latter in the flower, Cœlogyne pandurata, &c., with two other handsome things mentioned under Awards.

Messrs. Armstrong & Brown, Tunbridge Wells, staged a very fine group, $1\frac{3}{4}$ bays in extent, to which a Silver Cup was awarded. It was very effectively arranged with shallow dells on each side of the central bank, these being filled with Cypripedium glaucophyllum, Masdevallias, and many other dwarf things. The centre contained many fine Odontoglossums, Cattleyas, Læliocattleyas and Brassocattleyas, Miltonia vexillaria and Bleuana, Renanthera Imschootiana, a good Cypripedium Rothschildianum, the very fine C. Franconia, C. Victoria Mariæ, C. bellatulum, C. Mastersianum, C. callosum Sanderæ, Cattleya Skinneri alba, the brilliant C. S. Temple's var., some good C. Mendelii and Mossiæ, Oncidium pulchellum, Phaius Norman, Cochlioda Nœtzliana, Pescatorea cerina, Odontioda Vuylstekeæ and Bradshawiæ, Bulbophyllum Godseffianum, saurocephalum, and galbinum, Cœlogyne pandurata, Masdevallia Courtauldiana, Schlimii and Pourbaixii, a nice lot of M. ignea and coccinea, Brassolælia Helen, Brassocattleya Veitchii, some good Læliocattleya Aphrodite and Hyeana, Sophrocattleya grandiflora, Odontoglossum Hallii, excellens, Adrianæ and Uroskinneri, a very fine O. Maritana with 17 flowers, an unnamed brownish purple hybrid with a very long spike, O. crispum and O. Pescatorei in variety, and a great number of others too numerous to mention.

Messrs. Mansell and Hatcher, Rawdon, Leeds, also received a Silver Cup for a very fine group, a bay and a half in extent, and very tastefully arranged with shallow dells at the front and sides. It contained a large number of the brilliant Renanthera Imschootiana, effectively arranged with many white Odontoglossum crispum, many good Cattleya Mendelii and Mossiæ, C. Mossiæ Wageneri, several Dendrobium nobile and D. n. virginale, the rare and beautiful D. Maccarthiæ, D. acuminatum, Sanderæ, atroviolaceum, thyrsiflorum, Bensoniæ, and Jamesianum, a very fine Odontoglossom Rolfeæ, the bright yellow O. luteopurpureum Vuylstekeanum, examples of O. Lambeauianum, armainvillierense, spectabile, and others, Trichopilia Wageneri, Vanda Bensonii, Epidendrum Boundii, Oncidium Marshallianum, Harrisonianum, and pulchellum, Miltonia Phalænopsis, vexillaria, and Bleuana, Odontioda Charlesworthii, Vuylstekeæ, chelseiensis and rosefieldiensis, Cymbidium Devonianum and insigne, Angræcum Sanderianum, Cypripedium Queen of Italy, Lawrenceanum, Hookeræ, and others, Epidendrum fuscatum, Lælia tenebrosa, Vanda cœrulescens, Brassia maculata, Cyrtopodium punctatum, Restrepia maculata, the tiny Meglaclinium minutum, and many other interesting things.

Messrs. James Cypher & Sons, Cheltenham, received a Silver-gilt Flora Medal for a very fine group of well-grown plants, $1\frac{1}{4}$ bays in extent, which included many good Phalænopsis amabilis in the centre, some fine Lælia purpurata, Cattleya Mossiæ, and Mendelii, the charming C. citrina, C. Skinneri and C. S. alba, Miltonia vexillaria and Bleuana, a brilliant

form of Odontioda Cooksoniæ, O. Vuylstekeæ with two spikes, Masdevallia Veitchiana, coccinea and igneo-Estradæ, Anguloa Clowesii, Lælia cinnabrosa, some good Dendrobium Dearei, thyrsiflorum and formosum, well-bloomed examples of Oncidium Gardnerianum and leucochilum, Epiphronitis Veitchii, Maxillaria luteo-alba and Sanderiana, Phaius Norman, Epidendrum Boundii × xanthinum, Cypripedium Chamberlainianum, niveum, and bellatulum, Odontoglossum hastilabium, Clytie, and armainvillierense, some excellent O. crispum, O. amabile illuminatum, a large and handsome form with white ground and many suffused purple spots, with many other good things.

Messrs. Stuart Low & Co., Enfield, also received a Flora Medal for a fine group, of a bay in extent, including many good Odontoglossums, Miltonia vexillaria, Epidendrum O'Brienianum, vitellinum, ionosum, alatum, some fine Cattleya Mendelii and Mossiæ, C. Parthenia, C. luteola, C. Skinneri alba, brilliant forms of Læliocattleya Fascinator and Aphrodite, Odontioda Bradshawiæ, Charlesworthii, keighleyensis, and Vuylstekeæ, Chysis Sedenii, Cœlogyne pandurata, Masdevallia triarstella, macrura, similis, and coccinea, Oncidium ampliatum, Harrisonianum, Marshallianum, pulchellum, Gardnerianum, unicorne, and Kramerianum, Pleurothallis peduncularis, Dendrobium dixanthum, crepidatum, Dearei, Brymerianum, and crassinode, a fine example of D. ochreatum, Renanthera Imschootiana, Gongora bufonia, Bulbophyllum Lobbii and Dayanum, Cymbidium Lowgrinum and Schrœderi, Dendrochilum latifolium, Cypripedium bellatulum, and many other interesting things.

Messrs. J. & A. A. McBean, Cooksbridge, also received a Silver-gilt Flora Medal for a very fine group, 1¼ bays in extent, and most effectively arranged. It contained a beautiful series of Odontoglossum crispum, both white and blotched, O. c. Mrs. E. V. Low being a remarkably fine form, with very few spots, O. c. Mrs. J. McBean a richly-blotched form, and O. c. xanthotes and Snow Queen two charming albinos. Others included O. amabile Electra, with thirteen immense blotched flowers, O. Kegeljani, Clytie, Wilckeanum, Harryanum, Wendlandianum, luteopurpureum, nævium, and cirrhosum, a lot of good Miltonia vexillaria, two charming M. Phalænopsis, many fine Cattleya Mossiæ and Mendelii, Oncidium pulchellum, Gardnerianum, insculptrum, Cœlogyne pandurata, Læliocattleya callistoglossa ignescens, Lycaste macrophylla, Cymbidium Veitchii, Dendrobium Dearei, Epidendrum radicans, Odontioda Vuylstekeæ, Charlesworthii, keighleyensis, Bradshawiæ, Lambeauiana, Cooksoniæ, and many other choice things.

Mr. J. Robson, Altrincham, received a Silver Flora Medal for a brilliant little group, consisting largely of blotched Odontoglossums, Miltonia vexillaria and Bleuana, Cattleya Mossiæ and Mendelii, one of the latter

having peloriate flowers, a pretty Odontonia (M. Warscewizii × O. armainvillierense), and a clump of Renanthera Imschootiana at the back. Among the two dozen Odontoglossums, O. amabile Robsoniæ was a remarkable pink form, blotched with purple on the lower part of the segments.

Messrs. James Veitch & Sons, Chelsea, included three charming clusters of Orchids in their Gold Medal Group of Stove plants, consisting of well-grown plants of Disa Luna, Odontoglossum crispum and amabile, Cattleya Dusseldorfii Undine, some good C. Mossiæ and Mendelii, Lælia purpurata and Latona, Oncidium Gardnerianum, Marshallianum, and sarcodes, Cypripedium callosum Sanderæ and Maudiæ, Brassocatlælia Veitchii, Læliocattleya bletchleyensis, Renanthera Imschootiana, and others, most of them being represented by several plants.

Mr. Henry Dixon, Wandsworth Common, received a Bronze Banksian Medal for a pretty group, including a fine Cœlogyne Dayana with over a dozen long drooping racemes, several good Oncidium Gardnerianum, ampliatum and flexuosum, a fine Dendrobium Jamesianum, D. Farmeri and nobile, Cymbidium Lowianum, forms of Odontoglossum Andersonianum, Pescatorei, crispum, and some good hybrids, Cattleya Dusseldorfii Undine, C. Mendelii, Odontioda Bradshawiæ, &c.

Mr. E. V. Low, Vale Bridge, Haywards Heath, also received a Bronze Banksian Medal for a choice group, including Lycaste Skinneri alba, Cattleya Mendelii and C. Skinneri alba, Lælia purpurata bella, Lewisii, Lowii, and Annie Louise, Cymbidium Lowianum concolor, Diacattleya Sanderæ, Læliocattleya Hyeana, Odontoglossum crispum Jeanette, Cypripedium callosum Sanderæ, Odontioda Bradshawiæ and Vuylstekeæ, with a few others.

M. Ch. Vuylsteke, Loochriste, Ghent, sent four very beautiful Odontoglossums, namely, O. cœruleum (gandavense × armainvillierense), having fifteen fine flowers, of a peculiar violet-purple shade, with some lilac at the apex of the sepals and petals, and the lip white above and deep violet-purple at the apex, O. crispum His Majesty King George V., having very large red-brown flowers, margined with white, O. Grand Monarque (eximium × laudatum), having large claret-purple flowers margined with white, and O. Loveliness, a beautiful white form with large violet purple blotches. A fine Odontioda is mentioned under Awards.

Mr. J. Birchenall, Alderley Edge, sent several light-coloured forms of Cattleya Mendelii, one having a bluish tinge on the front lobe of the lip.

FIRST-CLASS CERTIFICATES.

LÆLIOCATTLEYA MORNINGTONIÆ (Pallas × Fascinator).—A very fine thing, having blush white sepals and petals, and a very large crimson purple lip. Exhibited by Francis Wellesley, Esq.

ODONTIODA BRADSHAWIÆ GATTON PARK VAR. (C. Nœtzliana × O.

crispum).—A very fine, bright orange-scarlet form, bearing a spike of 19 flowers. Exhibited by Sir Jeremiah Colman, Bart.

ODONTIODA CORONATION (parentage unknown).—Much like O. Vuylstekeæ, but having much larger flowers, about 3 inches across, the ground being light yellow, with a salmon red blotch at the base of the sepals and petals, the margin rose-coloured, and the lip strongly three-lobed, and blotched with deep crimson in front of the deep yellow crest. Exhibited by M. Ch. Vuylsteke.

ODONTIODA LAMBEAUIANA (C. Nœtzliana × O. Lambeauiana).—A very fine form, having clear deep scarlet flowers, with a bright yellow crest. Exhibited by Messrs. Sander & Sons.

ODONTOGLOSSUM BLACK PRINCE THE DELL VAR.—A very large and handsome hybrid, bearing a spike of 15 flowers, the segments being very broad, and deep chocolate purple in colour, with a whitish margin and a few narrow splashes on the segments. Exhibited by Baron Bruno Schröder, The Dell, Egham (gr. Mr. Shill).

ONCIDIUM MUELLERI.—A handsome species, allied to O. corynephorum, but having white sepals and petals, slightly tinged with pink, and a broad rounded rose-purple lip. Exhibited by Messrs. Sander & Sons.

AWARDS OF MERIT.

CATTLEYA MOSSIÆ G. M. HALES.—A very richly coloured variety, the sepals and petals being bright rose purple, and the lip crimson, with a deep yellow disc. Exhibited by S. Larkin, Esq.

CŒLOGYNE BURFORDIENSIS (pandurata × aspersa).—A striking plant, bearing a spike of eight light green flowers, with some blackish blotches on the lip, and thus most like the seed parent in character. Exhibited by Sir Trevor Lawrence, Bart., Burford (gr. Mr. W. H. White).

LÆLIOCATTLEYA GERMANIA (L.-c. Cappei × C. Mendelii). A very fine hybrid, having rich chrome yellow flowers, with the front lobe of the lip crimson. Exhibited by Messrs. Charlesworth & Co.

ODONTOGLOSSUM AMABILE EMPRESS OF INDIA.—A large and richly blotched variety, the flowers being pink, blotched with bronzy purple, and the lip white at the apex. Exhibited by Messrs. Sander & Sons.

ONCIDIUM CLAESII.—A striking thing, of the O. macranthum set, having a twining spike, some 10 feet long, with 13 side branches, and moderate-sized flowers, the sepals and petals being deep brown, the petals suffused with purple, and the trulliform lip dull purple. The spike is said to have taken two years to develop. Exhibited by Sir Jeremiah Colman, Bart.

CULTURAL COMMENDATION.

ODONTOGLOSSUM HASTILABIUM.—A remarkably striking plant, bearing an immense panicle of finely developed flowers. Exhibited by Messrs. Charlesworth & Co.

MANCHESTER AND NORTH OF ENGLAND ORCHID SOCIETY.

AT the meeting held at the Coal Exchange, Manchester, on April 13th, a few good Orchids were staged.

S. Gratrix, Esq., Whalley Range (gr. Mr. Brown), received a First-class Certificate for Cattleya Harrisoniana alba Gratrixiæ, and an Award of Merit for Odontioda Gratrixiæ.

O. O. Wrigley, Esq., Bridge Hall, Bury (gr. Mr. Rogers), sent a fine specimen of Lycaste Skinneri alba, to which a Silver Medal was awarded.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), received Awards of Merit for Odontoglossum heywoodiense and O. Lambeauianum var. Mrs. F. Peeters.

A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish), sent Odontoglossum crispum var. Kathleen Warburton.

At the meeting held on April 27th a Silver-gilt Medal was awarded to Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), for a fine group of Odontoglossums, and a First-class Certificate for O. Wilckeanum var. Mrs. Ward, a remarkably fine hybrid.

W. R. Lee, Esq., Heywood, received a First-class Certificate for Odontoglossum Pluto, and an Award of Merit for O. percultum purpurascens.

Messrs. Charlesworth & Co., Haywards Heath, received an Award of Merit for Læliocattleya Dominiana alba, a beautiful variety with white sepals and petals and a rich crimson lip.

Messrs. A. J. Keeling & Sons, Bradford, received an Award of Merit for Dendrobium acuminatum superbum.

At the meeting held on May 11th, R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), received Awards of Merit for Miltonia Phalænopsis and Odontoglossum amabile var. Milky Way.

ORCHIDS AT THE FLORENCE INTERNATIONAL EXHIBITION.

A GREAT International Horticultural Exhibition was held at Florence, early in May, to celebrate the fiftieth year of Italian Independence, and brought together a very fine series of exhibits, though the two first days were marred by exceptionally heavy rainfall for the season. The Show was opened on May 7th by their Majesties the King and Queen of Italy, who made a tour of the buildings, and greatly admired the fine horticultural display.

There was a very good show of Orchids, the majority, however, being from England and Belgium, in the shape of fine collections from Messrs.

Charlesworth & Co., Haywards Heath, Messrs. Stuart Low & Co., Enfield, and Messrs. T. Pauwels & Co., Ghent, the two former not for competition. The Orchid section of the Jury consisted of Messrs. R. Allen Rolfe, President, A. E. Boccardo, S. Bramante, A. de Keller, D. A. Ferrario, C. E. Malesci, L. Vannini, and C. G. Monti, Secretary.

The competitive classes were poorly filled, there being no entries in thirteen of the ninteen classes set apart for them. There were six classes for novelties, but only a single entry, in the one for a new Cypripedium in flower, in which Signor Fernando Scarlatti exhibited a good hybrid seedling from C. Lawrenceanum × Rothschildianum, but the Gold Medal offered had to be withheld, as the plant is already in commerce under the name of C. Mahleræ.

In the class for a collection of Orchids in flower of 100 different species and varieties, there was a single entry, and Messrs. Theodore Pauwels & Co., Ghent, were awarded the first prize, an Ornamental Vase, value 200 lire, for an excellent group, in which Cattleyas, Lælias, Miltonia vexillaria, Dendrobiums, Odontoglossums, Cypripediums, Renanthera Imschootiana, &c., were well represented.

For 50 distinct kinds the first prize, a large Gold Medal, was awarded to Signor Raffaello Mercatelli, Florence, for a good group, chiefly of warm house species, including several good Cattleyas and allies, Dendrobium superbum, Aërides odoratum, Anguloa Clowesii, Odontoglossum citrosmum, luteopurpureum and Pescatorei, Angræcum sesquipedale, and many others.

In the class for 25 there were three entries, the first prize being awarded to the Scuola di Pomologia, Florence, for a group of well-grown plants, including several fine Vanda tricolor and suavis, a series of seven good varieties of Lælia purpurata, Dendrobium superbum, and various others. The second prize went to March. Carlo Ridolfi, Meleto, for a rich and varied group of smaller plants. A third group was exhibited by Signor Raffaello Linari, Florence, and contained some interesting things, but did not secure an award, some of the plants being in duplicate.

In the class for Cypripediums and Selenipediums there was only a single exhibit, that by Signor F. Scarlatti, to which the second prize, a Silver-gilt Medal was given. It contained good examples of C. glaucophyllum, tonsum, Calypso, S. grande, caudatum, conchiferum, Schrœderæ, and many of the more familiar kinds.

In the class for a Vanilla in flower or fruit the first prize, a Silver-gilt Medal, was awarded to March. Carlo Torrigiano, Florence, for a fine plant with six racemes, mostly passing into fruit. A large plant was exhibited by the Instituto Agricola Coloniale Italiano, Florence, but being out of flower the second prize was not awarded.

In the class for an Orchid House built for utility and economy, the first

prize, a large Gold Medal, was awarded to Messrs. Houtsch & Co., Dresden, for a light and well arranged structure.

Two very fine groups were staged "Not for Competition," by Messrs. Charlesworth & Co., Haywards Heath, and by Messrs. Stuart Low & Co., Enfield, to each of which a large Gold Medal, value 200 lire, was awarded on the recommendation of the Jury. The composition of these two beautiful groups, with some of the others, must be left over until next month.

ORCHIDS IN SEASON.

SOME beautiful flowers are sent from the collection of W. P. Burkinshaw, Esq., Hessle, Hull, by Mr. Barker. Cattleya Schrœderæ var. Princess Ena is a fine form, with pale lilac sepals and petals, and the crenulated lip has a rich mauve blotch in front of the orange-yellow throat. C. Mendelii has blush white sepals and petals, and a white lip, with a light yellow disc. Cypripedium Countess of Carnarvon Hessle var., is a handsome thing, with very broad petals, and the whole flower very well developed. Dendrobium nobile Barkeri is a beautiful flower, with mauve sepals and petals, becoming purple at the apex, while the lip is of the same colour, with a very large deep maroon disc. D. Rolfeæ roseum is a very finely-developed flower of this rare and beautiful variety. A seedling from D. nobile Heathii × D. Cybele magnificum has mauve-coloured sepals and petals, with a white base, and the lip rather darker, with a rich crimson-maroon blotch on the disc.

A few interesting Orchids are sent from the collection of J. J. Neale, Esq., of Penarth, by Mr. Hadden, including the pretty Lælia lynwoodiensis (Jongheana × harpophylla), the curious Dendrobium nobile burfordiense, with a maroon blotch at the inner angles of the lateral sepals, and a large form of Cattleya Trianæ, with flowers of Odontoglossum triumphans and Phaius Wallichii.

A flower of a very fine Odontoglossum is sent from the collection of Sir Benjamin Scott, Linden House, Stanwix. It was obtained from Messrs. Sander & Sons, as a seedling between O. crispum Mundyanum and another Odontoglossum which we are unable to identify. It is of fine shape, and the lower two-thirds of the sepals and petals are occupied by a very large violet-purple blotch, the apex and margin being white. The lip is white, with a large purple blotch in front of the yellow crest. It should develop into a very handsome thing.

We have received from the collection of G. Hamilton-Smith, Esq., Finchley, four more flowers of the Odontoglossum hybrid, O. amabile Queen Alexandra crossed with a fine spotted crispum, which was mentioned at page 159 of our last issue. Mr. Coningsby remarks: "They are all

from the same batch, and you will notice that they are all totally different from the one which I sent you previously, and no two of them are alike. Only one shows traces of O. Harryanum in the lip, while another might be taken for a blotched crispum on a purple ground. The other two seem to have reverted right back to O. crispum, a state of things which, I suppose, might have been expected in some of them, when one considers the large amount of crispum that goes to make up the hybrid. We still have a few plants of the same batch to flower, but they are hardly strong enough yet."

MANURE FOR ORCHIDS.

IN answer to the enquiry as to Manuring Orchids in America, Mr. W. E Eglington remarks (page 99) that most of the Cattleyas in the United. States, are grown in polypodium fibre. I think our worthy friend will soon find that osmunda fibre is mostly used. I can with confidence say that the finest lot of Cattleyas grown in this country are to be seen in the establishment of the Julius Roehrs Co., Rutherford, New Jersey, where they grow over 30,000 in osmunda fibre only. Cattleya Mossiæ and C. Gaskelliana making four growths from one lead is unheard of among Orchidists, and it would be most interesting to readers of the *Orchid Review* if Mr. Eglington could send photographs of such plants. Mr. Eglington also speaks of using manure-water during the weeks of August, September and October, when closing the houses during the afternoon, but that is the period for ripening the bulbs, when forcing the plants by shutting up the house is out of the question. The climate here being much warmer than in England, top ventilation is used day and night from now on till the fall of the year weather permitting.

GEO. H. HUNT, Orchid Grower to Mrs. Geo. B. Wilson.

West Philadelphia, Pa., U.S.A.

ORCHID NOTES AND NEWS.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during June, on the 6th and 20th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The following meeting will be the great Summer Show, to be held at Olympia, Kensington (instead of at Holland House), on July 4th, 5th. and 6th. The Orchid Committee will meet on July 4th at 10.30 a.m. Silver Cups and Medals will be awarded according to Merit, and in addition the fifty guinea Silver-gilt Challenge Cup is offered in open competition for the most meritorious exhibit in the Show.

We regret that the programme of the Manchester and North of England Orchid Society has not reached us in time for the current issue.

ORCHID PORTRAITS.

BULBOPHYLLUM TREMULUM.—*Gard. Chron.*, 1911, i. p. 291, fig. 132.

CATTLEYA SKINNERI ALBA.—*Gard. Mag.*, 1911, p. 399, with fig.

CŒLOGYNE BURFORDIENSIS.—*Gard. Chron.*, 1911, i. p. 331, fig. 150.

CYPRIPEDIUM VOGELSANG.—*Gard. Chron.*, 1911, i. pp. 308, 309, fig. 141.

DIACATTLEYA SANDERÆ.—*Gard. Chron.*, 1911, i. p. 290, fig. 131.

LÆLIOCATTLEYA GERMANIA.—*Gard. Chron.*, 1911, i. p. 325, fig. 148.

LYCASTE IMSCHOOTIANA.—*Journ. Hort.*, 1911, i. p. 425, with fig.

MILTONIA BLEUANA PEETERSIÆ.—*Gard. Chron.*, 1911, i. pp. 274, 275, fig. 122.

ODONTIODA ROSEFIELDIENSIS.—*Gard. Chron.*, 1911, i. p. 308, fig. 140.

ODONTIODA VUYLSTEKEÆ CORONATION.—*Gard. Mag.*, 1911, p. 391, with fig.

ODONTOGLOSSUM BLACK PRINCE THE DELL VAR.—*Gard. Chron.*, 1911, i. p. 333, fig. 151.

ODONTOGLOSSUM CRISPUM CORONATION.—*Gard. Chron.*, 1911, i. p. 315, fig. 143.

ODONTOGLOSSUM ILLUSTRISSIMUM VAR. QUEEN MARY.—*Journ. Hort.*, 1911, i. p. 473, with fig.

ODONTOGLOSSUM QUEEN OF GATTON.—*Journ. Hort.*, 1911, i. p. 401, with fig.

ONCIDIUM SANDERÆ, Rolfe.—*Bot. Mag.*, t. 8374.

ANSWERS TO CORRESPONDENTS.

[Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work].*

F. J. Le M. –Cattleya Dowiana is a a native of Costa Rica. C. aurea was discovered afterwards in the State of Antioquia, Colombia, but is now considered as only a geographical form of C. Dowiana, hence the name C. Dowiana aurea often applied to it. There are only the two geographical forms mentioned, and we do not know how they can be certainly distinguished.

C. E. R., Shanghai.—Vanda Bensoni, a native of Burma. The other is Grammatophyllum Rumphianum, a Moluccan species. There are usually two or three abnormal flowers as the base of the spike.

A. J. K.—Bifrenaria Charlesworthii and Pholidota imbricata.

GHENT QUINQUENNIAL.—We have received the provisional Schedule of the seventeenth great Quinquennial Horticultural Exhibition to be held at Ghent at the end of April, 1913. Classes 22 to 100 are devoted to Orchids, for collections and single specimens, and the numerous prizes offered should secure a fine display.

Several notes and articles are unavoidably postponed through pressure on our space.

CATALOGUE RECEIVED.—Descriptive Catalogue and Special offer of Orchids, 1911, A. J. Keeling & Sons, Bradford, Yorks., containing a good selection of species and hybrids.

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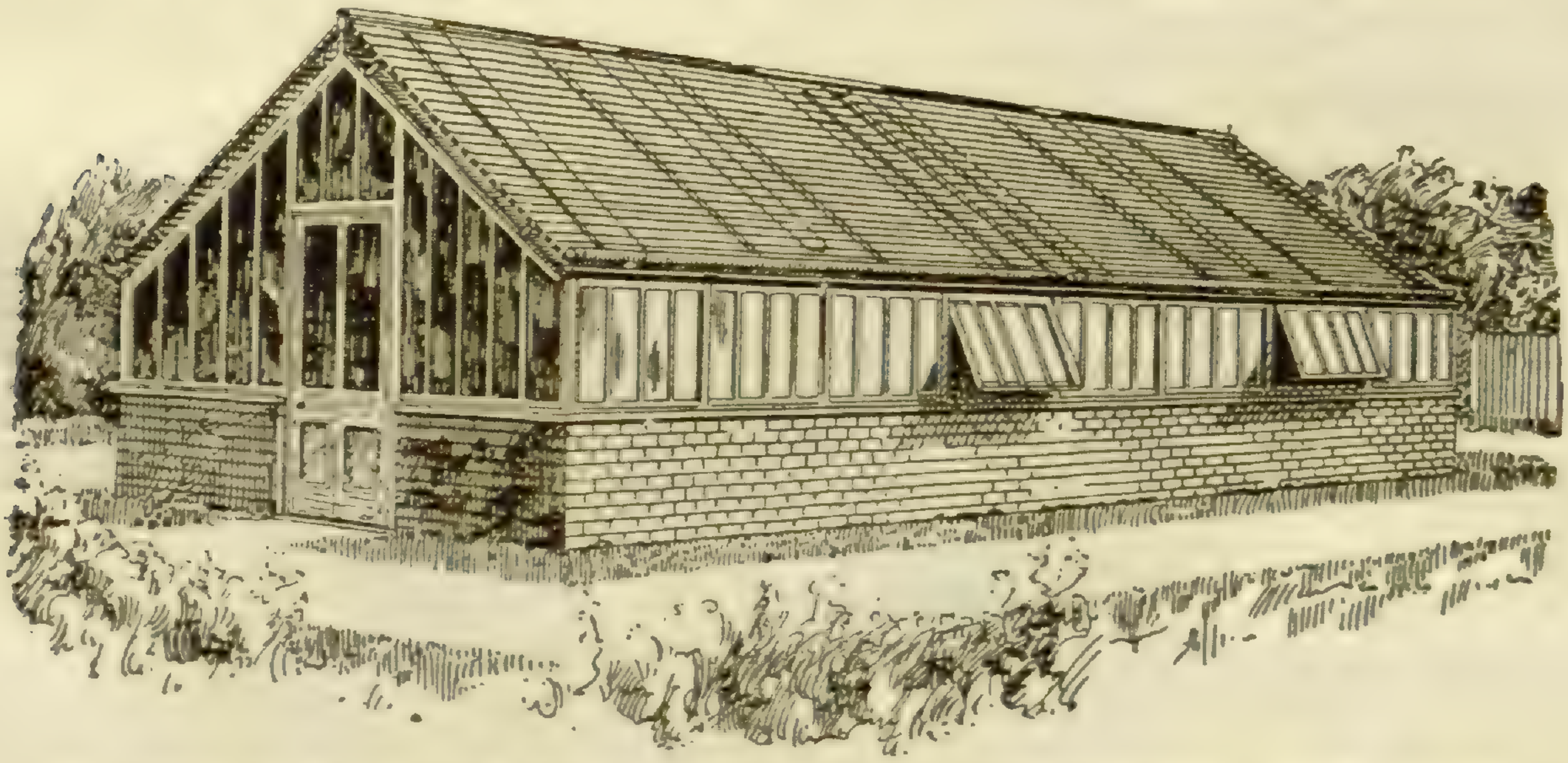

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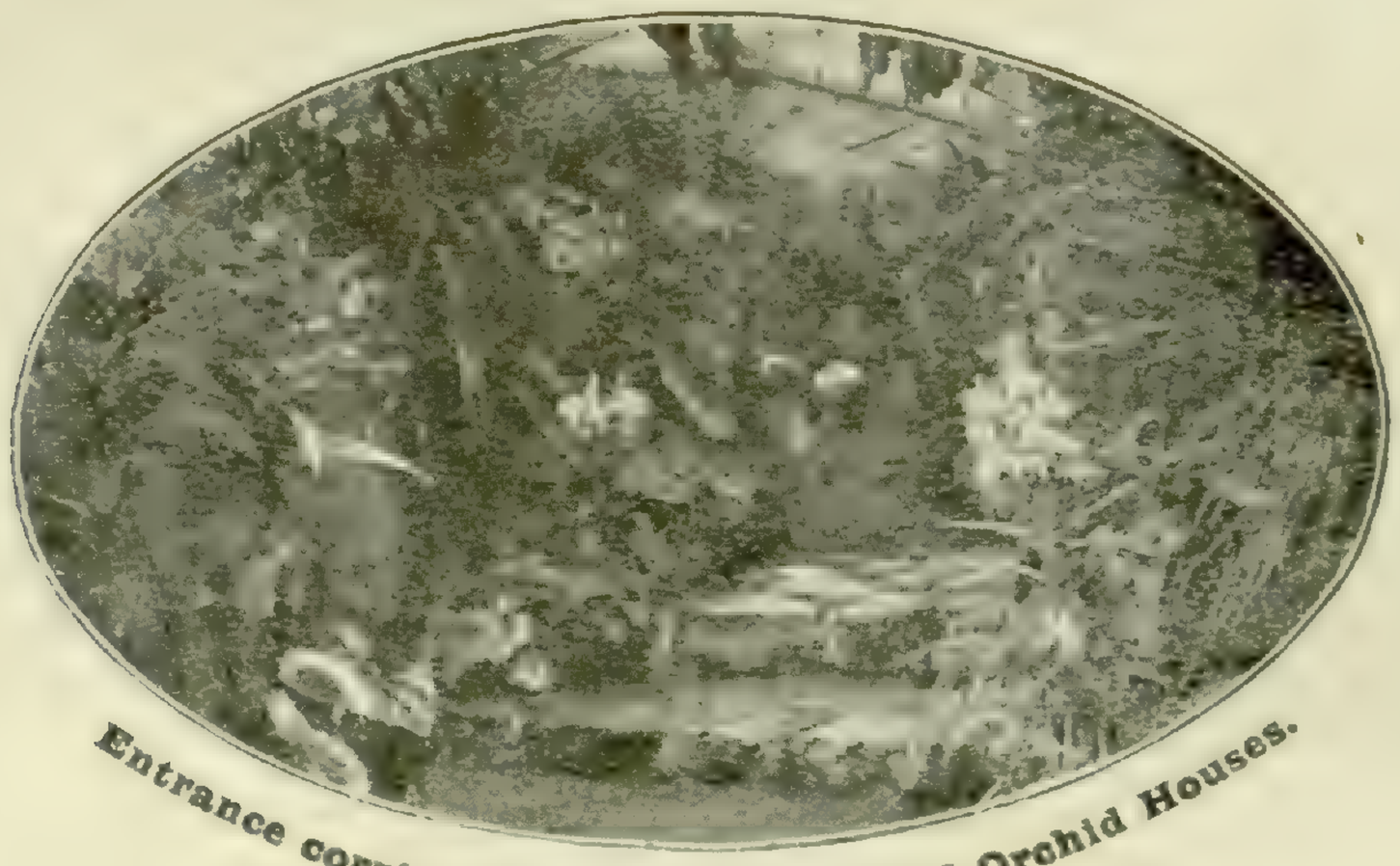

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Vol. XIX., No. 223. THE JULY, 1911.

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An Illustrated Monthly Journal.

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THE ORCHID REVIEW.

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OUR NOTE BOOK.

UNDER the heading, "Orchids at the Temple," a very pertinent question is raised by the *Journal of Horticulture*. "The display," it remarks, "was quite up to the average, but we are bound to admit that there is a great deal of repetition in some of the groups, and where space is so limited we think that quality and not quantity should be the rule." A note from the *Gardeners' Magazine* may be taken in this connection. "One heard the usual grumbles of exhibitors who asked for 100ft. space, got 25ft., and had to leave half the good things they intended to exhibit at home, &c., &c. And why do exhibitors clamour for space at the Temple Show, seeing that it is not competitive, and prize money is unknown? Well, ask the men who stood, note-books in hand, in front of their exhibits, suffering the heat of those tents for three whole days without a murmur, while the Society folk kept coming along with their orders. The whole thing, then, is explained in a nut-shell—the magic words advertisement and business are written large in every corner of the Temple Show.

Perhaps the second paragraph explains the first, and while there is nothing objectionable in such meetings being used for business purposes, within reasonable limits, the educational object should be kept more to the front. And surely something better might be attempted in the way of classification. A group of Odontoglossums, or Cattleyas, with the necessary foliage, would be a possitive relief, and if a division into Warm, Cool, and Intermediate Orchids, or something of the sort, is impracticable, prizes might be offered for good culture. Anything to break the monotony of existing arrangements, where each group is like every other, right round the tent, and where anything like comparison is impossible. Whether the great International Show of next May will realise all that is expected of it remains to be seen, but it will, at all events, be different, and there is likely to be some room, which are things to be thankful for.

There appears to be something unsatisfactory about the R.H.S. medals and awards, as witness the letter from the Council to the Chairmen of

Committees which appeared at page 172. A writer in the *Gardeners' Chronicle* remarks that although it would be improper to assume that it is a reprimand for past liberality, yet it must be regarded as a warning to be more stringent in the future. And he proceeds: "But it may be asked, is it worth while granting medals at all to these honorary exhibits? The majority of the exhibits at the fortnightly meetings are shown by traders, and it may be assumed that, while the securing of one or two medals may be gratifying at first, yet to receive them show after show must not merely become monotonous, but a nuisance. Business or advertisement is the reward the trader seeks, and in all such cases a card of thanks and appreciation is ample recognition. But private growers, who have no business anticipations, may look for some tangible acknowledgment in the shape of a medal or a certificate. High-class culture should certainly merit a medal or other acknowledgment. No doubt were the regular exhibitors at the meetings consulted, they would agree readily to dispense with medals. The Council is right in stating that these awards have become too common."

One of the above suggestions appears to have already been carried out, for the following appears in the Society's last Book of Arrangements: "The Council, having ascertained that the great majority of the firms who exhibit at the Society's Shows do not desire to possess so many duplicate medals, have decided that the first time a Trade firm wins a medal of any sort it will be engraved and forwarded, but no duplicate of that particular medal will be afterwards sent—except in the case of Gold Medals, which will always be sent if requested. If for any purpose Trade winners desire to possess other duplicate Medals, they may be had by purchase at cost price, the engraving being done at the Society's expense."

Perhaps this notice will afford the Chairmen of Committees a way out of the difficulty, for up to the present time the award of these duplicate medals is being recorded almost meeting by meeting, and if they are not really given the record is rather a farce. The difficulty seems to be that these medals are used as a kind of label to distinguish the different degrees of merit of the groups exhibited, an idea which is quite borne out by the Council's letter to which we have called attention. It should be possible to devise some more satisfactory arrangement.

An interesting question respecting Orchid hybridisation is raised in an article which appears on the following page, and as the writer asks for the opinion of the readers of the *Orchid Review*, we hope that they will give us the benefit of their experience in the matter.

ORCHID HYBRIDISATION.

AT the last meeting of the Orchid Committee of the German Horticultural Society (Deutsche Gartenbau Gesellschaft) a discussion about Orchid-raising took place in reference to the new book of Dr. Burgeff, *The raising of tropical Orchids from seed.*

In the opinion of Professor Dr. N. Witt only the best plants of an importation ought to be chosen and fertilized amongst themselves, so as to obtain home-raised seedlings (not hybrids) of the best possible type. The raising of hybrids, in his opinion, has outlived itself. Generally he has had no good experience with hybridising.

Mr. Beyrodt expresses a similar opinion, remarking that secondary hybrids, especially, have often disappointed him. This continual inter-crossing, in his opinion, will probably come to an end.

Mr. Janke, too, has often had little satisfaction with crosses, and he specially complains about difficulties in the germination of the seeds.

Prof. Dr. Witt mentions several hybrids which flowered in different years with different, partly very poor, flowers. In one year they resembled more their father, in another more their mother. One only succeeds in raising Orchid *albinos* if one hybridises two individuals of the same species. In crossing albinos of different species the seedlings mostly turn out to be coloured, often darker than the non-albino progenitors.

Mr. Beyrodt gives examples from his experience, that hybrids are often less beautiful than their parents. Thus crosses of Cypripedium insigne Sanderianum × C. insigne prove to be inferior to ordinary C. insigne.

This is extracted from the official report of the last meeting of the Orchid Committee, published in the *Orchis*, the German Orchid paper, but, in my opinion, bad experiences with hybrids can, as a rule, be put down to the choice of worthless or unsuitable parents. On the other hand, one cannot expect to obtain showy flowers from parents which may be botanically interesting, but are neither attractive in form, colour, nor size. Most of the above-mentioned opinions are contrary to my personal experience, and do not agree with the observations made by other Orchid-raisers. Especially I cannot agree that we have arrived at the end of hybridisation. On the contrary, in my opinion, we are at the beginning of a most interesting and instructive development, which, in some of the secondary hybrids, has brought us descendants surpassing in beauty all their ancestors, and, in the future, may bring us more magnificent surprises.

It would be very interesting to hear the opinion of your readers, as England, so far, is the country with the greatest knowledge of Orchid culture, and is playing the leading part in hybridisation.

C. F. KARTHAUS.

FERTILISATION OF ANGULOA CLOWESII.

A YEAR ago a question was asked about the fertilisation of Anguloa in a wild state, which elicited two or three interesting facts (*O.R.*, xviii. p. 211). A flower of A. Clowesii has now been sent by Mr. E. Rogers, gardener to O. O. Wrigley, Esq., Bridge Hall, Bury, in the hope that we may be able to trace some connection between the structure of the flower and the way it is fertilised. It has been called the Cradle Orchid, because of the way the lip rocks backwards and forwards as its balance is upset by the movement of the flower in the hand, but from the fact that on the plant the scape is borne quite upright, and is very rigid, one must look to the mechanism of the flower itself for an explanation. We do not remember any record as to the particular insect which fertilises Anguloa, but from a variety of considerations we suspect it is some large bee, and we imagine that the globose sepals and petals and open mouth of the lip are intended to ensure that the visit should be effected in some particular way. We may attempt to follow the bee during its visit. It would obviously alight on the apex of the flower and enter the open mouth of the lip, and a little experiment suggests what would probably happen. The first thing would be that the lip would assume the open position, with the lip away from the column, but if a pencil be now passed slowly and lightly down the lip it will be found that before it has time to reach the bottom the balance will be upset, and it will suddenly assume the closed position, with the lip touching the column. If the action had been caused by a bee, or similar insect, it would have been precipitated against the column, probably displacing the anther cap and fixing the pollinia to the insect by means of the viscid gland, and on its visiting a second flower, and repeating the process, the pollen masses would come in contact with the viscid stigma, and thus the fertilisation of the flower would be effected. The lip is the only mobile part of the flower, and we must assume that it has been progressively modified for its specific use in the economy of fertilisation. It would be very interesting if someone would observe the plant in its native home, and ascertain what particular insect plays the part of transferring the pollen from flower to flower. It is only there that the mystery can be effectively solved. The plant does not seed in our collections, unless artificially fertilised, because of the absence of the necessary insect, just in the same way that Vanilla planifolia, so much grown as an economic plant, has to be artificially fertilised. In certain districts of Central America, however, where the plant has its home, this is unnecessary, because there certain small bees of the genus Andrena perform the necessary office. These remarks apply to other species of Anguloa, except that A. Cliftonii differs in having a saccate base to the lip.

OBITUARY.

DR. HARRY BOLUS.—South African Botany, and Orchidology in particular, has sustained a great loss by the death of Dr. Harry Bolus, F.L.S., of Sherwood, Kenilworth, Cape Town, which took place at Oxted, Surrey, on May 25th. The deceased, who was 77 years of age, had long been a keen student of South African plants, and will be remembered by many of our readers as the author of the illustrated works, *Orchids of the Cape Peninsula*, and *Orchids of South Africa*. He also contributed papers to the *Journal of the Linnean Society*, and the *Transactions of the South African Philosophical Society*, and altogether has described a large number of new species, besides adding materially to our knowledge of the distribution of existing ones. Dr. Bolus was born in England in 1834, but went to South Africa when quite young, settling at Graaf Reinet, in the centre of Cape Colony, whence he removed to Cape Town about thirty years ago. He made numerous collecting trips, and amassed a large Herbarium, distributing duplicates liberally to Kew and other botanical institutions. He was a frequent visitor to England, of late years being always accompanied by his niece, Miss L. Kensit, B.A., who has long assisted him in all his work. Dr. Bolus succumbed rather suddenly to heart failure about a fortnight after his arrival in England, and was interred at Oxted on May 27th. He was a liberal patron of Botany, and some years ago founded and endowed a Professorship of Botany at the University of South Africa, to which institution his valuable herbarium and library are bequeathed. Several Orchids and other plants have been named after Dr. Bolus, and his name is further commemorated in Bolusia, a South African genus dedicated to him by Mr. Bentham in 1875.

REVIEW OF BOOK.

Icones Orchidearum Austro-Africanarum extratropicarum, or figures, with descriptions, of extra-tropical South African Orchids. By Harry Bolus F.L.S., Hon. D.Sc. (Cape). Vol. ii. William Wesley & Son, 28, Essex Street, Strand, London.

Fifteen years have elapsed since the completion of the first volume of this work, and now a second volume has appeared. The delay, the Author explains, has arisen from causes beyond his own control, viz., advancing years and ill-health, and there is a pathetic interest in an announcement preceding the title page: "The last pages of this book were finally corrected by the Author on the eve of his death." The volume contains one hundred plates, mostly partly coloured, and the Author remarks: "I have endeavoured to draw the Orchids here figured from living plants only, and have succeeded in a large proportion of cases in doing so, yet this naturally presents many difficulties."

Among the plants figured we notice two new species, Mystacidium Aliciæ (t. 6, fig. B), dedicated to Miss Alice Pegler, and Eulophia Pillansii (t. 27), to Mr. N. S. Pillans, both of whom sent him numerous living species. We may also mention the pretty little Cynorchis compacta, Polystachya pubescens, Stenoglottis fimbriata, Satyrium coriifolium, S. foliosum (t. 50), one of the rarest of South African Orchids, which has hitherto only been found in one spot, or within a few hundred yards of one spot, and of which the Author remarks "the flowers are, fortunately for its survival, a dull yellow, turning brown in age, or its extinction by the Vandals of Cape Town might be feared within a very short space of time," the handsome Disa uniflora, D. Telipogon, a rare and long-lost species, D. Charpentieriana (t. 77), a species having a long remarkable lip, "which as it sways about in the wind suggests a possible means of attraction for insects," D. racemosa, Corymbis Welwitschii (t. 99), a West African species, now found growing in swampy shady places at the mouth of the St. John's River, &c.

There are two or three determinations with which we cannot agree. For example, the South African Ansellia gigantea, Rchb. f., is figured (t. 29) as A. africana, Lindl., and we cannot consider Habenaria Boltoni, Harv., as a variety of H. Bonatea (t. 45).

There is one departure from the old arrangement which we cannot call an improvement, the plates being placed together at the end of the volume, and the text at the beginning, but as the text belonging to each plate is printed on a separate sheet, nothing is gained by the arrangement, while the continual turning backwards and forwards from text to plate and *vice versa* is distracting. The old arrangement of having the plate opposite to the corresponding text, as in the *Botanical Magazine*, is far preferable. It is apparently more than a detail in binding the work, for the position of the numbers on the plates has been altered, so that rebinding on the earlier plan would not secure absolute uniformity.

We learn that a number of additional plates have been drawn, sufficient for the greater part of another volume, and that it is hoped to publish them, which we certainly hope will be found possible, as figures of such remarkably complex plants are invaluable for identification purposes.

ACROLOPHIA BOLUSII (Rolfe).—A curious mistake was discovered in working out the Orchids for the *Flora Capensis*, namely that in the first volume of the above work the name of Eulophia micrantha, Lindl., has been transferred to E. cochlearis, Lindl., and that of the latter to a third species, while the former has since been described as a new species by Schlechter, under the name of Acrolophia fimbriata, Acrolophia being a genus separated from Eulophia on account of its terminal inflorescence and other characters. This was communicated to Dr. Bolus, and is alluded to under t. 8, where

the original E. micrantha, now called Acrolophia micrantha, is figured. The third species is thus without a name of its own, and may be called Acrolophia Bolusii (syn. Eulophia cochlearis, *Bolus Ic. Orch. Austr.-Af.*, i. t. 5; not of Lindl.).

R.A.R.

ORCHIDS AT GATTON PARK, REIGATE.

AMONG the numerous interesting Orchids now in bloom at Gatton Park, Reigate, the seat of Sir Jeremiah Colman, Bart., may be mentioned three of the Australian terrestrial species—a group seldom seen in cultivation—namely Caladenia carnea alba, a pure white variety, Pterostylis mutica, a member of a genus having a sensitive lip, and Microtis porrifolia, bearing a narrow spike of small green flowers. They form part of a small collection obtained some time ago, and grow very well in an Intermediate house. It will be interesting to see if they can be kept for any length of time, as many terrestrial species are apt to vanish during the resting period, probably owing to unsuitable treatment. Near by was a good plant of the rare Cryptochilus sanguinea with two spikes, Bulbophyllum inflatum, B. tremulum, and the remarkable B. lemniscatoides, the bright purple Cirrhopetalum Cumingii with five spikes, two Catasetums, apparently forms of C. splendens, just on the point of opening, Dendrobium Arthur Ashworth and Eulophia Saundersiana, a rare Tropical African species.

In an adjacent house was a plant of the rare Anguloa Cliftonii with three buds, a well-flowered Maxillaria gracilis, and Eria pannea with four spikes of deep yellow very hairy flowers, and in the Corridor several plants of Sobralia Colmaniæ in bloom, one being nearly white, and the other bright yellow, as in S. xantholeuca. Near by was a plant of the rare Chondrorhyncha Lendyana with two flowers.

In one of the Odontoglossum houses several interesting Masdevallias were in bloom, including M. xipheres, and a good plant of M. muscosa, both having sensitive lips, M. marginella, M. gargantua, and M. Davisii, while M. elephanticeps bore two buds, and Pleurothallis stenopetala over a dozen of its graceful spikes. A lot of Odontoglossum Thompsonianum were in bloom, their long arching racemes of white and purple flowers being most effective. Among many others a fine O. armainvillierense xanthotes stood out most conspicuously.

In the Cattleya houses many good things were in bloom, including several handsome Læliocattleya Phœbe, a beautiful L.-c. Canhamiana alba, some good examples of Cattleya Murrayi, Lælia tenebrosa and cinnabrosa, a good L. Pilcheri (lilacina) with six flowers, raised in the collection, and a number of the more familiar species and hybrids. In the Corridor, close by, were three fine plants of Phaius Phœbe in bloom, and a plant of the striking Bulbophyllum Ericsonii with two inflorescences.

In another Odontoglossum house several handsome Odontiodas were in bloom, with a nice batch of the brilliant Cochlioda Nœtzliana suspended from the roof, and among seedling Odontoglossums were several of the handsome O. Lady Roxburghe (cirrhosum × percultum), one of them bearing a panicle of 95 buds. It is remarkably vigorous for a plant only three years old.

In a Warm house were a number of interesting Bulbophyllums, including B. virescens with two inflorescences, the rare B. anceps, two or three examples of B. barbigerum, B. Godseffianum, two forms of B. Lobbii, one having the flowers much spotted, Cirrhopetalum pulchrum, C. biflorum with a dozen infloresences, Dendrobium Aphrodite, D. nudum in bud, three plants of Nephelaphyllum pulchrum, and other interesting things. The seedlings are raised in this house ; a number of small frames being devoted to the purpose. Dendrobiums do remarkably well in an adjacent house, and here the beautiful D. regium was in bloom, with D. Alpha, the first of its hybrids, which flowered last year for the first time. It is a charming little plant, with some of the rosy colour of this parent.

In the houses chiefly devoted to seedlings several interesting things were in bloom, including plants of Odontoglossum Queen of Gatton (triumphans × percultum), a hybrid which shows a considerable amount of variation, some forms being heavily blotched, and others yellow with a very few markings. There were also good examples of O. Lambeauianum, O. The Kaiser (Adrianæ × amabile), a large round flower, with numerous purple spots, showing the influence of the former parent very clearly. Two plants of Odontioda chelseiensis, raised in the collection, were in bloom, with one of O. Thwaitesii, and a nice batch of young seedling O. Charlesworthii were pointed out.

In a Warm house a little batch of Cypripedium Lawrenceanum, C. L. Hyeanum, C. callosum Sanderæ, and C. Maudiæ were in bloom together, furnishing interesting materials for comparison. A plant of the rare Australian Sarcochilus Ceciliæ bore several pink flowers, and among many Cattleyas was a pretty hybrid between C. intermedia and C. granulosa, having white sepals and petals, and a strongly three-lobed lip, with the front lobe purple. The seedlings generally were in excellent condition, and many most interesting things were pointed out by Mr. Collier, those from Diacrium bicornutum now forming quite a little collection.

Many familiar species and hybrids were in bloom which we did not note, and many rarities not in bloom were pointed out, and to these an increasing amount of attention is being paid. An importation has just been received from New Guinea, but it is feared that only a few of them will survive the journey, a regrettable circumstance as so few of the numerous New Guinea Orchids are yet in cultivation.

CHYSIS BRACTESCENS.

A FEW months ago I submitted an article for publication on the Orchid collection of the Missouri Botanical Garden, St. Louis, and emphasised the facts respecting the remarkable growth and abundance of flowers of the genus Chysis (*O.R.*, xviii. p. 142). This year the size of the pseudobulbs and amount of flowers produced have superseded all others. The treatment

Fig. 24. CHYSIS BRACTESCENS.

given has now been changed somewhat. In previous years the plants have been grown in the greenhouses exclusively, but this last season the plants were treated more naturally. In other words, the plants were grown in the open air from the beginning of May to the end of September, and this open-air treatment in our hot summer climate was a decided success, both in the

size and ripening of the growths and in the amount of bloom. I send two illustrations of the same plant, one being natural size, and the other reduced one-fourth. The plant had two young growths, each growth producing two flower spikes, the total number of flowers being thirty-two. The natural-size photograph shows the maximum growth containing nineteen flowers, the length of the pseudobulbs being sixteen inches, and nearly two inches in thickness. I might mention that cow manure was given regularly to these plants during the growing season. G. H. PRING.

[We have selected the photograph of the whole plant for reproduction, the other being too large, and not giving such a good idea of what this finely-grown plant was like.—ED.]

ORCHIDS AT FLORENCE.

A VERY interesting and quite historical collection of Orchids which we have now had the pleasure of seeing is that of the late H. J. Ross, Esq., Poggio Gherardo, Florence, Italy, which has been kept by his widow since his death in July, 1902. It has been located there since 1889, when Mr. Ross purchased the old Castello di Poggio Gherardo, which stands on a projecting spur of the lower ranges of the Fiesole Hills, some two miles east of Florence. Previous to that Mr. Ross resided at Castagnolo, Lastra a Signa, between Florence and Pisa, and at the time of the transfer it was computed to contain nearly a thousand species and varieties, and to be the finest ever brought together in Italy, not excepting the celebrated collection of Prince Demidoff, at San Donato, which was dispersed in 1878. Indeed some of the plants were then purchased by Mr. Ross. The nucleus of the collection is said to have been some boxes of Orchids which were brought to him by a friend from Mandalay, Upper Burma, among which were some plants of Vanda Parishii Marriottiana, which is believed to have been the source of the first plants of that variety sold in England. The date we are unable to give, but Mr. Ross settled in Italy in 1869, and it was probably not long afterwards. At all events the collection grew rapidly, and at the time of its transfer to Poggio Gherardo required five large houses for its accommodation. It is interesting to note that plants of the Vanda mentioned are still there, and we noticed one pushing up a very fine flower spike.

We now come to the modern aspect of the collection, and may at once say that it differs materially from most of our English collections, as the climate is unsuitable for Cool Orchids. Mrs. Ross informed us that her husband made great efforts to grow them, bringing a large number from England, and having a special arrangement of water running on the roof to help keep the temperature down. They flowered magnificently *once*, but the great heat of the summer and autumn months was too much for them, and they dwindled away. But the climate has just the opposite effect on

some of the heat-loving species, many of which grow with remarkable vigour, as has frequently been remarked by English Orchidists.

The collection is still housed in the five structures mentioned, together with a few Aroids and other stove plants. The houses are span-roofed, some nine to eleven yards long, with tanks beneath the stages, and they are shaded by rush blinds, which are supported on iron carriers, about a foot above the glass. These give more shade than lath blinds, as is necessary in such a bright climate.

In the first house we noticed a number of good examples of Vanda tricolor and suavis, V. Parishii Marriottiana producing a fine spike, a lot of Dendrobiums in open-sided pans, and among them D. Dalhousieanum Rossianum, Rchb. f., with a seven-flowered spike, a fine plant of Sobralia macrantha with ten blooms, forming quite a picture, good plants of Oncidium aurosum and sphacelatum, one of the latter being in bloom, a number of Selenipediums, several being in flower, Cœlogyne Massangeana, Rossiana, and Sanderiana, Cymbidiums, and other interesting things. A lot of Stanhopeas are grown here during the winter, to be mentioned presently.

The next house is largely devoted to Dendrobiums, Cypripediums, and species requiring similar treatment, and here we noted Brassavola Perrinii and Martiana in bloom, with Chysis bractescens and Dendrobium nobile, Miltonia spectabilis Moreliana in spike, Odontoglossum citrosmum with a spike of 13 buds, and a number of Cypripediums, these including C. Crossianum, Chamberlainianum, Germinyanum, Harrisianum, Ashburtoniæ Bartetii, superciliare, Cybele (Druryi × Lawrenceanum), and many others, several of them being from batches of seedlings raised in the collection. We noted plants of Miltonia festiva and Clowesii, a fine clump of Barkeria melanocaulon, Bulbophyllum Lobbii, various Cattleyas, Cœlogyne cristata alba, &c.

The next might be described as an Intermediate house, for here we saw Masdevallia Winniana in bloom, a good plant of Scaphosepalum swertiæfolium with several spikes, Oncidium incurvum throwing up two spikes, a fine clump of Brassia caudata, a plant of Restrepia striata, Epidendrum atropurpureum throwing up a spike, and plants of Odontoglossum grande. Lycaste cruenta and the hybrid L. Janetæ were in bloom, also plants of Cypripedium barbatum, Dendrobium Loddigesii, and Gongora quinquenervis vitellina, with Cirrhæa saccata and a Chysis in spike. Cœlogyne cristata grows here with remarkable vigour, and we noticed many fine specimens of the different varieties, while some have had to be thrown away for want of space. There were also Trichopilias, a fine pan of Cœlogyne graminifolia, Epidendrum Parkinsonianum, Lælia harpophylla, Lycastes, Cypripediums, &c.

The fourth house has a centre stage, and narrow side stages, chiefly devoted to Warm-growing species. The roof is devoted to Dendrobiums and others which thrive suspended, among which we noticed Aërides affine with a long spike, and two A. Leoniæ in bloom, A. odoratum in bud, with plants of A. Fieldingii, A. crassifolium, A. Larpentæ, A. Houlletianum, Phalænopsis Schilleriana, P. Lueddemanniana in bloom, a small plant of P. Lowii which is said to flower every year, the rare Angræcum Leonis in bloom, plants of A. sesquipedale, and of the fine Dendrobium anosmum Demidoff var., from the collection previously mentioned, with some well-bloomed D. Parishii, &c. On the end wall were plants of Vanilla planifolia and Renanthera coccinea, and on the stages two plants of Microstylis Scottii in bloom, a fine Stauropsis Batemanniana, some well-grown Calanthes, a plant of Cattleya elongata, said to have been here ever since 1892, with examples of C. Aclandiæ, Schilleriana, Warscewiczii, and others, and various Cypripediums, of which many have been raised, though, unfortunately, the parentage has been lost in a good many cases.

The last house is similar to the preceding in general character, and here we saw three plants of the beautiful Cœlogyne Dayana in bloom, one of them a magnificent example bearing eleven of its graceful spikes, about three feet in length, and forming quite a picture. There were also three plants of Calanthe Dominii in bloom, with examples of Dendrochilum latifolium, Oncidium Harrisonianum, Vanda tricolor, Bulbophyllum barbigerum, Cypripedium Godefroyæ, C. Germinyanum, some good C. bingleyense, raised in the collection, C. almum, C. Lawrenceanum, C. hirsutissimum, C. selligerum, &c., while in bud were Dendrobium Farmeri roseum, Anguloa Clowesii, Oncidium Wentworthianum, and numerous Cypripedes, together with a number of seedlings, while some of the plants were bearing seed capsules.

Interesting plants pointed out were Cattleya Rex, from the original importation, C. Trianæ, C. labiata, some good Sarcopodium cymbidioides, a large Læliocattleya amanda, forms of Lælia anceps, Ancistrochilus Thomsonianus, Dendrobium Jenkinsii, D. Farmeri album and luteum, a fine example of Vanda Hookeriana, a plant of V. Sanderiana, which keeps alive but does not flourish, a few Miltonias, and the historical Cypripedium Dauthieri which sported to the striped variety Rossianum, and afterwards to var. Poggio Gherardo, a greenish form with some bronzy tinge on the petals; also producing a harlequin-coloured sport, half-yellow and half chestnut, called var. Janet Ross (See *O.R.*, ii. p. 20). Cypripediums flourish here remarkably, and there are batches of seedlings of various well-known hybrids, with a few that have not appeared elsewhere. They root with the greatest freedom in a rubbly soil, with a surface of moss, and the stout hairy roots ramble over the sides in great luxuriance. The plants are

very clean, and tobacco water is used to keep down thrip whenever necessary.

A fine lot of Stanhopeas have already been mentioned. During the summer, from May to September, they are suspended on wires against a south wall, under an immense camphor tree (Cinnamon Camphora), which provides the necessary shade. Here they are said to thrive and flower profusely, watering as often as necessary being practically the only attention they receive. This treatment was the result of experiment, for it was found that they did not thrive in the house, being much troubled with thrip. The summer is hot, and practically rainless except for a few showers. Such treatment is, of course, not practicable in England. We saw these plants in their summer quarters, about thirty of them, and very healthy they looked. They included plants of Stanhopea Wardii, oculata, graveolens, tigrina, eburnea, Martiana, Ruckeri, and others.

The collection has for many years been under the care of M. Lodovico Vannini, who may be congratulated on his success, for many of the plants have been here since their original introduction, and there are many difficulties to encounter in such a climate. Copious shading is necessary during the summer, but the weather is often cold during the winter, owing to the proximity of the Apennine Hills. It may be added that the fuel used is a brown lignite, which is obtained in the vicinity.

Mrs. Ross has a very large collection of paintings, made by herself, the majority many years ago, in the lifetime of Mr. Ross, who was one of the most enthusiastic Orchidists of the day. It was most interesting to look through these, and see some of the rarities and historical plants of the collection, which, however, we have not space to enumerate. We shall long reme mber our visit with pleasure.

CYPRIPEDIUM SPECIOSUM.

SOME time ago the distinction between the Japanese Cypripedium called C. macranthum and the original Siberian species of that name was pointed out, when, following Matsumura, the former was referred to the imperfectly-known C. Thunbergii, Blume (*O.R.*, xvi. p. 186). It now forms the subject of a paper in the *Kew Bulletin* (1911, pp. 205-208). As the species had been figured for the *Botanical Magazine*, and there was some doubt as to the correctness of the name, application was made to the authorities of the Rijks Herbarium, Leiden, for the loan of the original specimen of C. Thunbergii, and an examination of all the materials has yielded some curious results, which may be briefly summarised. Cypripedium Thunbergii was based by Blume upon C. Calceolus, Thunb., which he regarded as distinct from the European C. Calceolus, L. Ten years afterwards Miquel, without seeing a specimen, reduced C. Thunbergii to C. macranthum, and

still later Franchet and Savatier called it C. macranthum var. ventricosum, citing two Japanese figures, but giving no character. Pfitzer again separated C. Thunbergii, including C. macranthum, Franch. and Sav., as synonymous, while Matsumura followed suit, adding also C. Calceolus var. Atsumori as a synonym. The last-named is evidently C. Atsmorei, Morren, described and figured in 1851, from a specimen which flowered at the Ghent Botanic Garden, and which is said to have been received from Siebold among a number of other living plants from Japan. C. Thunbergii is only certainly known from Blume's original specimen and figure, and in the latter the details of the lip are incorrectly drawn, and are so repeated by Pfitzer. It is suggested that *Honzo Zufu*, xxxix. t. 19, one of the figures cited by Franchet and Savatier, may belong here, and it is hoped that this note may lead to the re-discovery of the lost species. The remaining Japanese specimens and figures belong to the other species, and as it is without a name that of C. speciosum, Rolfe, is proposed. It is described as a common Japanese plant, hitherto confused with the preceding and with the Siberian C. macranthum, Swartz, but differing in the colour of the flowers, which are white or pink veined with rose, and in some small details of floral structure. According to Matsumura, it grows as far north as Urup, in the Kurile Islands. It will be fully characterised in the *Botanical Magazine*, t. 8386.

THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON.

COOL HOUSE.

As we are now, or should be, experiencing summer weather, every effort must be made to keep this house as cool as possible, and it should be exceedingly damp throughout this month. Syringe the plants overhead about nine in the morning, two o'clock in the afternoon (providing that the house is well shaded), and again at six in the evening. Damping the paths, staging, and walls should be done four or five times daily. All plants must now be examined every morning, and if inclined to be at all dry, should receive a liberal supply of water. This, however, does not apply to those at rest, nor to any which have been freshly potted. If the Orchids are kept well watered, and abundance of air be given during the day, as well as some at night, the plants will keep clean and healthy. No fire heat will now be needed for this house, but the temperature must not descend below 58° Fahr. Shading will be needed from 9.30 a.m. till the sun is well off the house, heavy shading and an abundance of moisture combined with plenty of air, will alone prevent the temperatures from rising too high. This month is not one when very many Cool house Orchids are in flower, but Odontoglossum hybrids and Oncidium Marshallianum should still keep the house gay.

CATTLEYA HOUSE.

Much the same treatment will be required here as advised in my last month's article. Overhead sprayings and damping down the house will be needed three or four times daily, but only enough shade should be given to prevent scorching the leaves. A shady corner should, however, be reserved for the Cypripediums, and also for any plants in flower. Plenty of air must be admitted, but it is a good plan to close all the ventilators from 3 to 5 p.m., at the same time damping well and raising the blinds. A nice growing atmosphere will thus be produced. If the evening gives promise of being fine and warm, some of the bottom ventilators may then be opened, closing them if necessary about nine o'clock. The temperature will run up to a high degree this month with the sun, but no harm will be done to the plants if the house is airy and well laden with moisture. Fire heat will only be necessary if the weather becomes dull and cold. The lowest temperature from now till the beginning of September should be 68° Fahr.

This house should be very gay this month. Cattleya Mossiæ is still in flower, and many of the fine Cattleya hybrids and Læliocattleyas should open their blossoms. Of the former C. Enid, Mantinii, Frederickiæ and Rothschildiana must rank amongst the best, whilst some of the orange-coloured Læliocattleyas, such as Charlesworthii, Hypatia, luminosa, Phœbus and Veronique should be making a grand show. Dendrobiums are mostly over, but some Vanda cœrulea should be showing for flower.

ODONTOGLOSSUM GRANDE, HASTILABIUM, AND UROSKINNERI.—These beautiful species are now starting into growth, and should be removed from the Cool house to a position near the door of the Cattleya house, where, from several experiments, I am firmly convinced that they do better. Leave them there until the flower spikes are showing. An airy and light position must be chosen, and plenty of water given. Should they need repotting it must be performed at once. Remove the plant with care from the old receptacle, gently shake off the soil, and cut away the back bulbs and any dead roots. Three of the former are sufficient to support the new growth. Fill a fresh pot to within one-third of its depth with clean broken crocks. On these set the plants, and fill up to the rim of the pot with soil. This should consist of finely-chopped polypodium fibre, a handful of well-decayed oak-leaves, and a little peat or osmunda fibre. A few heads of green living sphagnum moss should be worked into the surface soil. Keep the plants rather dry and well-shaded until a start has been made in the new compost. A gentle spray over the leaves once a day, damping also between the pots, will be all the moisture required for two or three weeks. The compost must be used in a damp state, and be well mixed together. Do not repot unless necessary. Next month I shall hope to explain fully the important work of overhauling the plants and houses.

SUGGESTED ADDITIONS.

ODONTOGLOSSUM × ROLFEÆ.—This is one of the best hybrids of the genus, and of comparatively early raising. The flowers are large, of good substance, and freely borne on long branching spikes. Its parents are O. Harryanum and Pescatorei. The sepals and petals are of a deep creamy white, spotted with purple, the tips being wholly of that colour. The petals, however, are only marked at the base. The lip is large, of good size, pale yellow in colour, blotched on the lower half with deep violet, and has a golden-yellow crest. Plants of this Orchid are now mostly in flower or spike, and should be well supplied with water.

BRASSOCATTLEYA VEITCHII.—This is a most gorgeous hybrid for an amateur's Cattleya house, and is of easy culture, reasonable in price, and free flowering. The blossoms are of large size, and produced from a sheath during June and July, remaining several weeks in perfection. The sepals and petals are of a deep rosy pink, whilst the lip is well open, of immense breadth and most beautifully fringed. In colour it is of a deeper shade than the petals, with a beautiful yellow throat. It is a hybrid between Cattleya Mossiæ and Brassavola Digbyana. Any plants in full growth or in flower should not be allowed to become dry, but any which have finished blossoming should be kept slightly drier at the roots until a fresh start is made.

ODONTONIA × LAIRESSEI.—This is another magnificent bigeneric hybrid derived from Miltonia Warscewiczii and Odontoglossum crispum. In shape the flowers closely resemble the former parent, especially in the short narrow sepals and petals and broad lip. The ground colour is white, but all the segments are heavily blotched with reddish brown. The crest on the lip is yellow, variegated with light red. It is a sturdy grower, and remarkably free in blossoming. No collection should be without this handsome hybrid, which can be now procured at moderate cost. The blooms remain several weeks in perfection.

CYPRIPEDIUM REGINÆ ALBUM.—An albino of the beautiful Cypripedium Reginæ flowered at Kew, and was described fourteen years ago (Rolfe, in *O.R.*, v. p. 196). We have found a record of the same variety as long ago as 1838. It was then figured by Sweet (*Brit. Fl. Gard.*, iii. t. 240, fig. A), under the name of C. spectabile album, from a plant which flowered with Mr. G. Charlwood in the previous summer, the author remarking: "We had never before seen or heard of a white variety, so that it is a very rare plant." In a wild state, also, Miss Grace Nyles remarks that the albino or white variety rarely occurs. "I found one plant, however," she remarks, "bearing two blossoms, the first I ever saw, and I removed the plant to watch it in my garden." (*Bog-trotting for Orchids*, p. 61).

VANDA KIMBALLIANA.

THE annexed figure represents an inflorescence of the distinct and beautiful Vanda Kimballiana, one of the most useful species in the genus.

Fig. 25. VANDA KIMBALLIANA.

It was introduced by Messrs. Hugh Low & Co., over twenty years ago, from the Southern Shan States, where it grows on the hills at an elevation of

4,000 to 5,000 feet, sometimes on rocks in full sun and sometimes on trees in partial shade. It was described by Reichenbach in 1889 (*Gard. Chron.*, 1889, i. p. 232). Its slender terete leaves give it a very distinct appearance, and its long graceful racemes of white flowers, with a rose-purple lip, render it very attractive. The species thrives under Intermediate house treatment, but, like other terete-leaved Orchids, should not be grown under too much shade. For the use of the block we are indebted to Messrs. Mansell & Hatcher, Rawdon, Yorks.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING was held at the Royal Horticultural Hall, Vincent Square, Westminster, on June 6th, the day after Bank Holiday, when, as usual on such occasions, the attendance was very small, though there was a good display of Orchids. Eight medals were given, and two Awards of Merit, one of them to a very interesting new Oncidioda exhibited by Messrs. Charlesworth.

The Orchid Committee was present as follows:—J. Gurney Fowler, Esq., in the chair, and Messrs. J. O'Brien (Hon. Sec.), de B. Crawshay, W. Bolton, Gurney Wilson, W. H. White, C. H. Curtis, H. G. Alexander, J. Charlesworth, J. H. Shill, W. Cobb, T. Armstrong, A. A. McBean, F. J. Hanbury, F. Sander, and Sir Jeremiah Colman, Bart.

S. Larkin, Esq., The Ridgways, Haslemere (gr. Mr. Hales), staged a very pretty group, including Odontoglossum Pescatorei, O. excellens, and others, some good Lælia purpurata, Cattleya Mossiæ and Mendelii, Lælio-cattleya Fascinator, Aphrodite and Canhamiana, Anguloa Ruckeri, Saccolabium ampullaceum, a few well-grown examples of Renanthera Imschootiana, and Phalænopsis amabilis, a Silver Banksian Medal being awarded.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. W. J. Stables), received a Bronze Banksian Medal for an interesting little group, including Odontoglossum illustre (Vuylstekei × armainvillierense), O. Ganymede (elegans × Edwardii), O. Lambeauianum, Astarte, and waltonense, a beautiful white O. crispum, and a fine form of Odontioda rosefieldiensis (C. Nœtzliana × O. triumphans), having very large flowers, marked with reddish scarlet on a yellow ground.

Sir Trevor Lawrence, Bart., Burford, Dorking (gr. Mr. W. H. White), exhibited Læliocattleya Fascinator-Mossiæ, a handsome hybrid, having white sepals and petals, the latter tipped with purple, and the lip deep purple-crimson with some yellow in the throat; also a variety of Cattleya Mossiæ which is mentioned under Awards.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. J. Davis),

sent Odontioda Bradshawiæ Cookson's var., bearing a fine spike of fifteen yellowish scarlet flowers, becoming cream white, tinged with rose, towards the apex of the segments.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Cattleya King-Emperor, a very fine variety, and Læliocattleya Farrantiæ (L. purpurata × L.-c. Pallas), a fine rosy flower with the front of the lip claret-purple.

Messrs. Charlesworth & Co., Haywards Heath, staged a fine group, to which a Silver Flora Medal was awarded. It contained some beautiful forms of Odontoglossum crispum and O. Pescatorei, one of the latter being remarkable in having the column wings and base of the lip claret-purple, with some purple blotches in front of the crest. There were also some good forms of O. Jasper, Lambeauianum, and armainvillierense, the striking O. Williamsianum, a number of fine Læliocattleyas, as Aphrodite, Canhamiana, luminosa, Fascinator, eximia, and others, some beautiful examples of Trichopilia Backhouseana, forms of Miltonia vexillaria and Bleuana, Bletia Shepherdii, Dendrobium Dearei, Odontioda Bradshawiæ, and a new Oncidioda, which is mentioned under Awards.

Messrs. Hassall & Co., Southgate, received a Silver Flora Medal for a fine group, chiefly of Cattleya Mossiæ varieties, the centre being made up of the beautiful C. M. Wageneri, with several good C. M. Reineckeana, Arnoldiana, and other light-coloured forms. There were also examples of Læliocattleya Canhamiana and Brassocattleya Veitchii.

Messrs. Stuart Low & Co., Enfield, received a Silver Flora Medal for a fine group of Cattleya Mossiæ, Læliocattleyas, and Odontoglossums, with some good examples of Odontioda Charlesworthii, O. Bradshawiæ, Epidendrum vitellinum, Renanthera Imschootiana, Bulbophyllum Reinwardtii, B. Godseffianum, Odontoglossum citrosmum, and other interesting things.

Messrs. J. and A. A. McBean, Cooksbridge, received a Silver Flora Medal for a beautiful group of Odontoglossum crispum varieties, with a few hybrids, some good Cattleya Mossiæ and Mendelii, Lælia purpurata, Læliocattleya Canhamiana, including the very richly-coloured McBean's variety, Miltonia vexillaria and Bleuana, Cochlioda Nœtzliana, Odontiodas, Miltonias, &c.

Messrs. Sander & Sons, St. Albans, also staged a very handsome group, to which a Silver Flora Medal was awarded. It included a brilliant series of Læliocattleya Canhamiana, both dark and light-coloured varieties, the latter being arranged at the back, L.-c. purpurato-Rex (L. purpurata × L.-c. Canhamiana Rex), a fine thing, having white sepals and petals, and a lip showing much of the character of L. purpurata, Cattleya intermedia alba raised true from seed, Phaius Cooksoniæ, Brassia longissima, Odonto-

glossum Thompsonianum, Cypripedium imperiale (Rothschildianum × Stonei), Aërides Houlletianum, Ornithocephalus grandiflorus with four spikes, Phalænopsis amabilis, Liparis Pantlingii, Microstylis khasiana, Ornithochilus fuscus, Masdevallia O'Brieniana, and others.

Mr. E. V. Low, Vale Bridge, Haywards Heath, received a Silver Banksian Medal for a good group, including several distinct forms of Lælia purpurata, Cattleya Dusseldorfii Undine, Læliocattleya Gladys var. Princess Louise, Brassocattleya Corona (B. Digbyana × C. Schilleriana), Cœlogyne pandurata, Bulbophyllum barbigerum, B. Collettii, some good Odontoglossums, &c.

Messrs. Armstrong & Brown, Tunbridge Wells, sent a good group of Læliocattleyas, Brassocattleya Veitchii, Epidendrum prismatocarpum, Brassolælia Veitchii, Oncidium pulchellum, Dendrobium nobile virginale, Cœlogyne pandurata, the richly-coloured Masdevallia Harryana Leyswood var., Pescatorea cerina, Renanthera Imschootiana, Cypripedium glaucophyllum, Cattleya intermedia cœrulea, a good C. Mossiæ Reineckeana, Odontoglossum citrosmum roseum, and others.

The Liverpool Orchid and Nursery Co., Gateacre, sent Læliocattleya Cowanii (L. cinnabrosa × C. Mossiæ), having bronzy yellow flowers with a rose-purple lip.

Mr. John Robson, Altrincham, sent three handsomely blotched hybrid Odontoglossums.

Messrs. H. A. Tracy, Twickenham, sent Cattleya Mossiæ Floryæ, a finely-shaped white flower, with a tinge of pink on the front of the lip.

AWARDS OF MERIT.

CATTLEYA MOSSIÆ AUREOLA.—A beautiful variety, having blush white sepals and petals, the lip much crisped, and the disc orange-yellow with a few purple markings.—Exhibited by Sir Trevor Lawrence, Bart.

ONCIDIODA CYBELE (Oncidium sarcodes × Cochlioda Nœtzliana).—A very interesting and pretty hybrid, bearing a branched inflorescence of flowers most like those of the Oncidium parent in shape, and the colour yellow blotched with light scarlet.

At the meeting held on June 20th the Orchid exhibits were fewer than usual, but three medal groups were staged, one First-class Certificate and one Award of Merit being also granted.

E. R. Ashton, Esq., Broadlands, Tunbridge Wells (gr. Mr. Young), staged an interesting group of well-grown plants, to which a Silver Banksian Medal was awarded. It contained a fine Odontoglossum Williamsianum bearing two flower spikes, O. Fascinator, Epidendrum vitellinum, the bright magenta-crimson Masdevallia coccinea Leyswood var., Læliocattleya Martinetii, L.-c. Hippolyta, and other showy things.

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park, Reigate (gr. Mr. J. Collier), exhibited a plant of the handsome Anguloa Cliftonii, Catasetum Cliftonii, and a fine pale yellow form of Sobralia Colmaniæ.

The Baroness von Ernsthausen, Manor House, Ditton Hill, Surrey (gr. Mr. James), showed a fine plant of Brassia verrucosa with three spikes.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford, Dorking (gr. Mr. White), showed Catasetum Cliftonii.

Messrs. Stewart Low & Co., Bush Hill Park, staged a fine group, to which a Silver Banksian Medal was awarded. It contained good examples of Oncidium macranthum and Wentworthianum, Renanthera Imschootiana, Dendrobium Jamesianum, D. nobile virginale, Odontoglossum Pescatorei, good examples of O. amabile and O. mirum, Epidendrum prismatocarpum, Cattleya Mossiæ, and C. M. Wageneri, Sophrocattleya Saxa, Masdevallia calura, Pleurothallis stenopetala, and others.

Messrs. Sander & Sons, St. Albans, also received a Silver Banksian Medal for a very fine group, which included many showy Læliocattleyas and Odontoglossums, Cattleya Mossiæ Reineckeana, C. M. Wageneri, and other fine forms of the species, a remarkable plant of Cycnoches pentadactylon with four racemes and an aggregate of 136 flowers, Maxillaria Sanderiana, Anguloa uniflora, Odontioda Bradshawiæ, and others, Lycaste peruviana, Bulbophyllum saurocephalum and leopardianum, Brassia Lawrenceana var. aurata, Habenaria Susannæ, Masdevallia coriacea, Cypripedium bellatulum Princess Clementine, and many other good things.

Messrs. Armstrong & Brown, Tunbridge Wells, sent a fine specimen of Masdevallia coccinea splendens, bearing numerous bright magenta-crimson flowers.

Messrs. Charlesworth & Co., Haywards Heath, sent a choice group of Orchids, including a fine plant of Trichopilia Backhouseana with twelve flowers, the striking Chondrorhyncha Chestertonii, Mormodes pardinum unicolor, a fine plant of Odontonia Lairesseæ, Listrostachys Chailluana, Aspasia epidendroides, and some good Odontoglossums and Masdevallias.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent Cattleya Mossiæ Wageneri with six flowers, C. M. Reineckeana, the beautiful white Cattleya Madame Myra Peeters, Cœlogyne pandurata, Cypripedium callosum Sanderæ, C. Maudiæ, &c.

Messrs. J. and A. A. McBean, Cooksbridge, sent a few good Orchids, including a richly-coloured Cattleya Mossiæ, and several C. M. Reineckeana, a good C. Warscewiczii, Miltonia Bleuana var. Doris, having a purple blotch at the base of the lip, and a rosy flush on the petals, a fine Odontoglossum Harryanum, and several fine forms of O. crispum.

Messrs. H. A. Tracy, Amyand Park Road, Twickenham, sent Dendrobium

ochreatum luteum, having lemon-yellow flowers, with a purple blotch at the base of the lip.

FIRST-CLASS CERTIFICATES.

ODONTOGLOSSUM EUROPA (cœruleum × crispum F. K. Sander).—A very beautiful and richly-coloured hybrid, having broad reddish-violet sepals and petals, with a narrow white margin and a small white area at the base and apex, while the lip has a large central violot blotch in front of the crest, the front lobe being white.

AWARD OF MERIT.

ODONTIODA ROSEFIELDIENSIS VAR. CRAWSHAYANA (Odontoglossum triumphans × Cochlioda Nœtzliana).—A very large and striking form, having yellow flowers tinged with red-brown, and the centre of the lip deep yellow.

ORCHIDS AT THE FLORENCE INTERNATIONAL EXHIBITION.

At page 190 we alluded to two fine groups of Orchids which received Gold Medals at the recent International Horticultural Exhibition at Florence, and we now give a few details of their composition. The competitive groups have already been dealt with.

Messrs. Charlesworth's group contained a fine plant of Miltonioda Ajax with sixteen flowers, Odontioda Charlesworthii, Lutetia, Cooksoniæ, Bradshawiæ, Cassiope (C. Nœtzliana × O. amabile), and Diana (O. amabile × Odontioda heatonensis), Zygocolax Charlesworthii, Cochlioda Nœtzliana, Odontoglossum crispum, polyxanthum, Solon, Eleanor, Adrianæ, Lawrenceanum, Wilckeanum, concinnum, Phœbe, armainvillierense, eximium, Jasper (oakwoodiense × armainvillierense), Thompsonianum, Trichopilia Backhouseana, distinct forms of Sophrocattleya Marathon, Brassocattleya Queen Elena (B.-c. Veitchii × C. Trianæ alba), a very beautiful white hybrid, some good Dendrobium infundibulum, Phalænopsis amabilis, Læliocattleya Prospero, Cattleya Mossiæ Wageneri, C. Empress Frederick, C. Salus (superba × Mossiæ), Cypripedium Transvaal, C. Wottoni, C. A. de Lairesse, and others, some of the plants being represented by two or more examples, and all good.

Messrs. Stuart Low & Co.'s group included fine plants of Odontioda Bradshawiæ, heatonensis, Charlesworthii, keighleyensis, Renanthera Imschootiana, Epidendrum vitellinum and odoratissimum, Odontoglossum Pescatorei, triumphans, crispum in variety, concinnum, Dendrobium nobile, thyrsiflorum, Wardianum, Jamesianum, Brymerianum, Pierardii, chrysotoxum, and crepidatum, Masdevallia coccinea, Cymbidium Lowianum, Brassocattleya langleyensis, Saccolabium bellinum, Cattleya citrina, C. Mossiæ, C. M. Reineckeana, C. Loddigesii, C. Schrœderæ, C. Empress Frederick, C. Mendelii, Oncidium sarcodes, pubes, ampliatum, Marshall-

ianum, and varicosum, Bulbophyllum Lobbii, Cypripedium niveum, Maudiæ, and various others.

The plants, with few exceptions, had borne the long journey well, and were greatly admired, especially the cool-growing species, which are seldom seen in such perfection in Italy.

AN AMATEUR'S ORCHID HOUSE.

UNDER this title our contributor, Mr. C. Alwyn Harrison, has given an account of his interesting little collection of Orchids and the conditions under which they are grown (pp. 11-15, 37-38). We have now had the pleasure of seeing the collection, and although after a rather long absence, during which the plants were left in the care of a man who has had no experience of Orchid culture, we found several features of interest. It says much for Mr. Harrison's enthusiasm that he has been so successful with so small a structure as the one described, which, it may be added, is part of an ordinary greenhouse in his father's garden that has been cut off by a partition and adapted to Orchid culture.

Details of the house having already been given, we shall only mention a few of the plants seen, which numbered about 92, with nearly an equal number in the frames to be mentioned presently. Those in bloom were Cattleya Schrœderæ with a four-flowered spike, Oncidium Papilio, two plants of Cypripedium Harrisianum, C. Curtisii nobilior, and C. Cymatodes with three buds, while in a Conservatory were several Odontoglossum crispum, including a good blotched type, Cattleya Mossiæ and Cypripedium barbatum. Dendrobium Devonianum is a large plant which is said to have flowered freely for four years, while D. Wardianum and D. nobile were growing on blocks on the back wall. D. Dominianum and a few others were also pointed out. A vigorous plant of Oncidium Kramerianum had three flower spikes, and ten plants of Vanda cœrulea on a shelf were growing and rooting well. Other plants pointed out were Brassocattleya Veitchii, Brassolælia Helen, Lælia purpurata Russelliana, Cattleya Harrisoniana alba, C. Gaskelliana, and various others, also a few interesting seedlings which have been acquired. These included Cattleya Dowiana aurea × Percivaliana, four seedlings of the former self-fertilised, and Læliocattleya Golden Oriole × C. Dowiana aurea; these from the collection of J McCartney, Esq. Two which have already flowered are Lælia purpurata × cinnabrosa, and Cattleya Harrisoniana × L. xanthina. It may be interesting to record that *zinc* trays have been placed on some of the stages, which are kept full of water, and the plants stood on inverted saucers, the object being to provide plenty of moisture for evaporating purposes.

The heated frame previously mentioned forms a somewhat novel feature,

and has been extended along the front of the greenhouse from which the Orchid house was partitioned off, and includes four lights. There are two divisions, one light being intended for warm-growing Cypripedes, one for seedlings and such things as will succeed with them, and the remaining two lights for Odontoglossums, cool-growing Cypripedes, &c. The plants were doing well, but the fact that the lights have to be lifted in order to give the plants the necessary attention must be a great drawback in cold weather. Squares of felt are laid on the glass when necessary to conserve the heat.

In the first frame were Cœlogyne pandurata and a numbar of Cypripediums, C. Lawrenceanum being in bud, as also was Bulbophyllum Dearei, while in the next frame was Cypripedium Rothschildianum in bud, with a few seedlings, various C. insigne, Oncidium Kramerianum, Leptotes bicolor, &c., the plants being to some extent under re-arrangement. The Cool Frame contained a number of interesting things, including Cymbidium Tracyanum and grandiflorum, Odontoglossum crispum in spike, a small plant of O. c. Leonard Perfect, four plants of O. grande in good condition, O. Pescatorei, and a few seedlings from various sources, these including O. Wilckeanum × luteopurpureum, and O. Edwardii × Hunnewellianum, both of almost flowering size, O. amabile, and a hybrid of O. Harryanum. Oncidium tigrinum was growing well, also Zygopetalum Mackayi, while Masdevallia Chimæra was pushing a spike. Cypripediums included C. insigne Harefield H allvar. × villosum, and C. aureum crossed with Boxallii. and with C. Charlesworthii, these and others being raised in the collection. Various other Cypripedes were pointed out, but we must pass them over.

Mr. Harrison is very enthusiastic, and has a number of experiments in progress, the results of which we may hear of in due time.

LÆLIOCATTLEYA AMANDA.

A VERY interesting generic hybrid, derived from Lælia Boothiana crossed with the pollen of Cattleya intermedia, is now flowering at Kew. The cross was made several years ago in the hope of proving the parentage of the natural hybrid Læliocattleya amanda. There are about a dozen seedlings, one of which produced a single flower last autumn, which I did not see, and now a two-flowered spike has appeared, while two others are in sheath. The natural hybrid in question appeared in the establishment of Mr. W. Bull, Chelsea, and was described by Reichenbach under the name of Lælia amanda (*Gard. Chron.*, 1882, ii. p. 778), the author remarking: "No doubt a hybrid, to judge by the very unequal pollinia. . . . What were the parents? There is no difficulty in thinking of Cattleya intermedia, from the nature of the lip. The other parent may have been Lælia crispa." Two years later it was figured in the *Orchid*

Album (iii. t. 135), from a plant in the collection of W. E. Brymer, Esq., Ilsington House, Dorchester, where it is said to be the Cattleya Rothschildiana of some gardens. Shortly afterwards Reichenbach suggested Lælia Boothiana as the second parent, as appears from the following. On August 21, 1883, Mr. J. Day made a painting (*Orch. Draw.*, xxxviii. t. 11), which he records as "Drawn at Mr. Wm. Bull's, being a plant of his own importing from Brazil." He also remarks that Mr. Bull thought it different from Lælia amanda, and has sent a flower to the Professor. The reply is recorded as follows: "Your Lælia is my amanda. I have had several sent me lately. It varies much. I consider it a natural hybrid between Lælia Boothiana and Cattleya intermedia. Sept. 2, 1883."

We now come to Cattleya Rothschildiana. On December 5, 1882, a plant was figured by Mr. Day under this name (*Orch. Draw.*, xxxii. t. 19), whose origin is thus recorded: "Mr. Stuart Low, of Clapton, very kindly sent me a lovely box of flowers received by him from Mr. Brymer, of Dorchester, among which was this very lovely Cattleya. It appears to me to be a hybrid, whether natural or garden-raised I cannot say. It seems intermediate between L. elegans and Cattleya maxima. If so, it must be a garden plant, since one comes from Brazil and the other from New Grenada." Mr. Day afterwards added the name "Lælia amanda," remarking: "This, Lælia amanda, an imported Orchid from Brazil. The plant was sold to Mr. Brymer by Mr. W. Bull, who flowered two more plants in 1883, one of which is drawn in Sc. Bk. xxxviii. 11. See remarks there. Cattleya maxima does not grow within a thousand miles of Lælia elegans, so cannot be the parents, if this is a hybrid—but Prof. Reichenbach suggests Cattleya intermedia and Lælia Boothiana, which seems very likely, as the latter would give the veining. Sept. 8, 1883."

This painting and note are very interesting and instructive, for they afford a clue to the identity of Cattleya Rothschildiana, of which I am unable to find a description, and also show the confusion that has been introduced into the history of Læliocattleya amanda. This painting does not represent the plant of the *Orchid Album*, nor yet the one painted afterwards by Mr. Day (previously alluded to). Nor is it the one described by Reichenbach (whose description appeared just eleven days after the painting in question was made). It represents what I afterwards described as a natural hybrid between Lælia Boothiana and Cattleya Forbesii, under the name of Læliocattleya Verelii (*O.R.*, vii. p. 340), which itself had been purchased as L.-c. amanda. This is well shown by the closely infolded side lobes of the lip, and by the yellow disc with the very characteristic Forbesii-like red veining (for Mr. Day, fortunately, made an analysis). Whether Reichenbach ever saw this second hybrid is uncertain, for he does not allude to it, but the two probably came in the same importation,

for Mr. Brymer obtained both from Mr. Bull, and we know that Lælia Boothiana, Cattleya intermedia and C. Forbesii grow intermixed. As a matter of fact all the three possible natural hybrids between them are known—the third being Cattleya Krameri, Rchb. f., which is probably identical with the earlier C. Isabella, Rchb., f., still known only from description.

Læliocattleya amanda and L.-c. Verelii are quite distinct. The type of the *Orchid Album* figure—and it agrees well with Reichenbach's description—is, fortunately, preserved at Kew (having been acquired in the Gower Herbarium), also a three-flowered inflorescence received from Mr. Brymer, in 1892, while L.-c. Verelii is represented by an original flower, received in October, 1899, and by others received from Messrs. Veitch, in 1888, Messrs. Seeger & Tropp, in 1889, and Sir Frederick Wigan, in 1903, all being called L.-c. amanda until the confusion was discovered. The flowers of the hybrid raised artificially much resemble L.-c. amanda, but the lip is more deeply three-lobed, the front lobe light purple with rather darker veins, the side lobes recurving, and the throat white, with a light purple line down the centre of the disc, while the sepals and petals are tinged with rosy lilac, the latter being distinctly undulate. As in the wild hybrid, there is a total absence of the characteristic yellow disc and veining of Cattleya Forbesii, which is well represented in L.-c. Verelii. It will be interesting to see how far the remaining seedlings vary.

I may add that it was the discovery of the confusion above mentioned that led me to make the cross, after having obtained the necessary permission, and that there are seedlings of three or four other crosses which should yield some interesting results. R. A. ROLFE.

CALENDAR OF OPERATIONS FOR JULY.

By J. T. BARKER, The West Hill, Hessle, E. Yorks.

THE general treatment recommended last month should be continued, and it will be unnecessary to repeat the details here. There may be times and instances when a slight departure from the general rule is advisable, but this is a matter that must be left to the cultivator to judge for himself, for to make a hard and fast rule, and follow it continually, will not always be successful, and, in any case, I should not consider it good practice. What is suitable in one district will not be so suitable in another, as there is a wide difference between a hot and dry situation and a low and damp one, and our practice should vary according to the local conditions.

WATERING must be well attended to, as everything now is growing, and the plants should have liberal supplies of water, whenever they are dry. They should be allowed to get fairly dry between each operation, and then have a

thorough soaking. Newly-potted plants should be watered with great caution, never applying any unless the compost is dry, but the plant should not be allowed to shrivel in any case. Too much care and attention cannot be given in the application of water to our plants.

SHADING must also have attention, as many of the soft-growing plants, such as Cypripediums, Phalænopsis, and Odontoglossums, soon scorch if the direct rays of the sun fall upon them, which will disfigure them for years, perhaps. My advice to all growers is to use their blinds a little more at this season, when the sun is often very bright, and the plants, or, rather, the young growths, are tenderest, rather than run the risk of getting them scorched. Many Orchids, I am aware, like sunshine, but when growing in our glass houses it must be admitted with discretion.

CATTLEYAS.—All Cattleyas, Lælias, and Læliocattleyas, as they pass out of flower, should be examined, and any compost that is at all decayed should have attention. The best and the safest time to overhaul them is whenever they are seen to be pushing new roots. I am of the opinion that the wretched state that this class of plants is often seen in is due to neglect in this respect. The compost recommended for them in previous numbers will answer their requirements. Water must be applied with the greatest caution after they have been overhauled. Pots or shallow pans I believe to be most suitable for the majority of them. The strongest plants of C. Gaskelliana, and the autumn-flowering C. labiata, have made considerable progress with their new growths, and in some cases the pseudo bulbs and flower sheaths are already formed. At this stage the plants should be elevated well up to the roof glass, where they may enjoy all the light possible, which will prevent the new growths from damping or decaying. Plants of C. Warscewiczii, as they pass out of flower, should be placed in a house where the atmosphere is drier and the temperature a little cooler than the one in which they have been growing (this to induce them to take a decided rest), and when seen to be pushing new roots they may be potted.

LÆLIA ANCEPS and its numerous varieties are now growing and rooting freely, whilst some of the most forward will be developing their flower spikes with the new growths. They must, in this stage, have abundance of water at the root, removing the shading as early in the afternoon as possible, maintaining a warm moist atmosphere throughout the evening, and the last thing at night opening the bottom ventilators again, and, if the weather will allow, the top ones may be slightly opened. Early in the morning close the ventilators for an hour or so, and give the house a good damping down. A nice warm temperature, with plenty of moisture during the day, and a cooler night temperature, is the road to success with these plants.

LÆLIA PURPURATA, after flowering, should be kept on the dry side for a

time, and when new roots are seen to be pushing any that require new compost can have attention.

LEPTOTES BICOLOR, as it passes out of flower, may have attention, should it require it. This little gem, when well-flowered, always commands attention, and does well when grown with the cool Cattleyas. The compost recommended for Cattleyas will answer its requirements.

CYPRIPEDIUMS of the summer-flowering sections, such as C. Rothschildianum, Stonei, Lawrenceanum, Curtisii, callosum, and any hybrids from them, as they pass out of flower, should be examined, and any that require additional rooting space should have attention. They should be potted in the compost recommended for them early in the year. The green-leaved ones may have a small quantity of loam added to the compost, and the tessellated ones none. The Selenipedium section at the same time should be done if they require it. Any Cypripedium seedlings that are large enough to handle should be pricked off, so that they may get established before the winter months are upon us. The sooner they get a separate existence the better, and by giving them fresh and sweet compost I find they make plants much quicker, and therefore flower sooner. This remark applies to all seedlings, whichever family they belong to.

CATASETUMS and Cycnoches, suspended close up to the roof glass of the East Indian house, thoroughly enjoy the warmth of the sun, and as much light as it is possible to afford them, without scorching the young foliage. Plants of both genera will now be rooting freely, and making rapid progress with their new growths, and therefore should have liberal treatment as regards water, and should be examined every day. No water should be allowed to lodge in the young growths.

THUNIAS which have flowered should be placed in a cool house, where they can be exposed to full sunlight, syringing them from time to time, to prevent an attack of red spider or thrip. Plants that have failed to bloom may be kept growing a little longer, to get the new growths as strong as possible, pulling out the top of the growth to prevent them from growing to an unnecessary length. They must have water until their leaves change colour, when it may gradually be withdrawn, until the plants are placed away for the winter.

DENDROBIUMS in full growth must have ample supplies of water, and should be sprayed or syringed once or twice daily on all favourable occasions. The new growths should be tied up to sticks, or those grown suspended to the suspenders, so that they may not get damaged or broken. It also keeps the plants more shapely.

LYCASTES.—As the plants of the different species fill their pots with roots they may have more liberal supplies of water, and an occasional watering with weak manure water. These plants when well rooted enjoy

abundance of moisture, but if over-watered their leaves become spotted and unsightly.

SOBRALIA MACRANTHA and the lovely white variety alba, as they pass out of flower, should be repotted, if they require it, using a compost of equal parts of peat fibre, and good turfy loam, with a fair quantity of coarse silver sand, and potting them firmly. Water must be applied with caution until the plants are established in their pots, as they resent being disturbed, and this operation should be done with care. They delight in an Intermediate or Cattleya house temperature, and should not be allowed to get absolutely dry even in the winter months.

GENERAL REMARKS.—Attend to the general routine of cleaning, the tying up of growths, and the extermination of all insect pests. Watering, shading, and ventilation demands much attention during this month. Any plants that are not in robust health should have their flowers removed as soon as ever they are open. I am not much in favour of taking spikes out before the flowers open, as it has a tendency to throw the plant out of season.

CYPRIPEDIUM LUTEUM.

THIS handsome Chinese Cypripedium has at last been introduced to cultivation, a large number of plants having been collected by Mr. E. H. Wilson during his recent visit to China on behalf of the Arnold Arboretum, and a photographic illustration has appeared in the *Gardeners' Chronicle* (1911, i. p. 402, fig. 178). It was originally described by Franchet, in 1888 (*Pl. David.*, ii., p. 126). Roots of C. tibeticum have also been introduced at the same time. Mr. Wilson remarks, respecting them:—

"The roots were received at the Arnold Arboretum, Boston, U.S.A., on April 12th last, and a few plants were potted and kept in a greenhouse. On May 6th C. luteum opened its flowers for the first time under cultivation, and the photograph reproduced was taken. . . . These roots were dug up in October, 1910, transported some eighteen hundred miles by porters, boat and steamer, and finally shipped from Shanghai on March 14, 1911. Although the roots were a full six months from the time of collecting to that of planting they travelled very well, and hundreds are growing away freely in the nurseries of the Arnold Arboretum. This augurs well for their vitality, and indicates that their acclimatisation should not be a difficult matter. Their hardiness, as judged from the altitude at which they occur in their native state, and from plants growing in association with them, is assured. Both species are sturdy, vigorous growers."

C. luteum is described as an erect-growing species, 20-45 cm. high, with solitary clear yellow flowers, the pouch usually having a few orange-brown spots or blotches in front, otherwise much resembling the North-American C. spectabile.

"This yellow-flowered Cypripedium was originally discovered by Père David in June, 1869, in the pretty state of Moupin, situate in the extreme west of China. It was collected a few years later by Père Delavay, who records it as being abundant around Tali, Yunnan Province, at an altitude of 3,000 metres. The present writer first collected it in north-western Hupeh, where it is extremely rare. Later, he met with it in greater quantities in various localities in the Chino-Thibetan borderland. Its habitat is the margins of thin woods and thickets. It also occurs on scrub-clad boulders stranded in bogs. Around Sungpan, in the extreme north-west corner of Szechuen it is abundant in thin woods of Spruce and Silver Fir, growing near the margin of certain glacial torrents, which are surcharged with petrifying limestone. Nevertheless, having seen it growing in a variety of soils, one would hesitate to say that a calcareous soil is necessary. A cool situation and plenty of leaf soil would seem the essentials. This plant, in habit, vigour, and general appearance, closely resembles the North-American C. spectabile, and where that species thrives C. luteum should succeed."

CYPRIPEDIUM TIBETICUM.

THIS striking Cypripedium was introduced to cultivation six years ago by Mr. E. H. Wilson, when collecting in China for Messrs. James Veitch & Sons, and its history was given in these pages (*O.R.*, xiii. p. 194). It is interesting to learn from the article summarised above that he has now secured an importation of it for the Arnold Arboretum. Very few plants were originally introduced, but one of them was figured in the *Botanical Magazine* (t. 8070), and the species received a First-class Certificate from the R.H.S. at the Temple Show in May, 1906. Mr. Wilson now remarks: "C. tibeticum is widely-spread along the Chino-Thibetan borderland and on the Alpine moorlands at an altitude of 3,000-4,000 metres, and is one of the commonest plants. It occurs in countless thousands," as shown in a photograph reproduced as a supplementary illustration. "It is possibly one of the finest of all-red flowered hardy Cypripediums." The species, afterwards described as C. corrugatum, Franch., is now considered identical.

ONCIDIUM CLAESII.

A PLANT of this striking Oncidium has now flowered in cultivation, in the collection of Sir Jeremiah Colman, Bart., Gatton Park, Reigate, and was exhibited at the recent Temple Show, receiving an Award of Merit. The species was described over four years ago (*Kew Bull.*, 1906, p. 376), from Colombian materials collected by M. Fl. Claes, Etterbeek, Brussels, the collector describing the inflorescence as 12 to 18 feet long, entangled and twisted round the branches of a shrub, and bearing numerous large flowers with chocolate-red sepals, the petals and lip deep carmine, tinged with

violet, and the crest yellow. It is allied to O. tenense, Rchb. f. The plant exhibited bore a twining spike about ten feet long, with 13 side branches and numerous flowers, the sepals being deep brown, the petals paler and suffused with purple, and the trulliform lip deep purple, with a yellow crest. A mistake appeared in our report at page 187, where the spike is said to have taken two years to develop. Mr. Collier informs us that it should have been six months. Several striking species of the Cyrtochilum group are not yet known in cultivation. R.A.R.

ORCHIDS IN SEASON.

A VERY richly-coloured form of Læliocattleya Canhamiana is sent from the collection of Mrs. Fielding, Grimston Park, Tadcaster, by Mr. G. P. Bound, who remarks that it is a hybrid raised in the collection, from Cattleya Mossiæ × Lælia purpurata, and that several others have bloomed, all of a similar dark type, this, however, being the best in shape. The sepals and petals are bright rose-purple, and the front lobe of the lip rich crimson-purple, the throat being yellow with some dusky lines.

Several interesting flowers are sent from the collection of J. J. Neale, Esq., Penarth, by Mr. Haddon, noteworthy among them being a handsome form of Lælia grandiflora (majalis), in which the disc of the lip is white, the usual blotches having vanished. The sepals, petals, and apex of the lip are the usual light-rose purple. Mr. Haddon remarks that it seems to grow best under the treatment given to Sarracenias, namely, plenty of water and full sun-light. A large and richly-coloured form of Læliocattleya Canhamiana is also enclosed, a twin-flowered scape of Cypripedium bellatulum, a fine flower of Phragmopedilum caudatum, Trichopilia tortilis, Cirrhopetalum picturatum, Dendrobium mutabile, and an inflorescence of Epidendrum Ruckeræ.

ORCHID NOTES AND NEWS.

A MEETING of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, on July 18th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon. The following meeting is fixed for August 1st.

The Manchester and North of England Orchid Society will hold a meeting at the Coal Exchange, Manchester, on July 6th. The Committee meets at noon, and the exhibits are open to inspection from one to four p.m.

We learn that the beautiful Cattleya Warscewiczii alba, which was figured at page 232 of our last volume, has been acquired by Messrs. Stuart Low & Co., and is now in their nursery at Bush Hill Park.

DENDROBIUM SCHUETZEI, Rolfe.—This is another striking Dendrobium, of the D. Dearei group, which has been introduced by Messrs. Sander & Sons, St. Albans, and of which a technical description has been prepared. It has very large white flowers, the petals are obovate-orbicular in shape, and the lip strongly three-lobed, with broadly-rounded side lobes, and the front lobe broadly obovate or nearly orbicular, with a distinct apiculus. The petals and lip are much broader than in D. Dearei, and altogether different in shape. It should prove a great acquisition.

ORCHID PORTRAITS.

CATTLEYA DUSSELDORFII UNDINE.—*Journ. Hort.*, 1911, i. p. 493, with fig.

CATTLEYA MOSSIÆ ARNOLDIANA.—*Journ. Hort.*, 1911, i. p. 589, with fig.

CATTLEYA REX, O'Brien.—*Bot. Mag.*, t. 8377.

CYMBIDIUM LONGIFOLIUM.—*Gard. Mag.*, 1911, p. 472, with fig.

CYPRIPEDIUM LUTEUM, Franch.—*Gard. Chron.*, 1911, i. p. 402, fig. 178.

CYPRIPEDIUM TIBETICUM, King.—*Gard. Chron.*, 1911, i. p. 403, fig. 179, and suppl. fig.

LÆLIOCATTLEYA CANHAMIANA ALBA.—*Journ. Hort.*, 1911, i. p. 565, with fig.

LÆLIOCATTLEYA GERMANIA.—*Gard. Mag.*, 1911, p. 413, with fig.

LÆLIOCATTLEYA MORNINGTONIÆ.—*Gard. Mag.*, 1911, p. 414, with fig.

LYCASTE SKINNERI ALBA.—*Journ. Hort.*, 1911, i. p. 541, with fig.

ODONTOGLOSSUM CRISPUM.—*Journ. Hort.*, 1911, i. p. 517, with fig.

ODONTOGLOSSUM ILLUSTRISSIMUM QUEEN MARY.—*Gard. Chron.*, 1911, i. p. 363, fig. 167.

ODONTOGLOSSUM PRESIDENT HENIN.—*Rev. Hort. Belge.*, 1911, p. 185, with plate.

ONCIDIODA CYBELE.—*Gard. Chron.*, 1911, i. p. 404, fig. 180; *Gard. Mag.*, 1911, p. 439, with fig.

ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work*].

A.D.—There is nothing to show whether the plant described is the one you allude to, but if so, we believe the name to be incorrect.

C.F.K.—A note is unavoidably postponed. No 2 is Læliocattleya Eva. See *Orchid Stud-Book*, page 102.

S.—Phragmopedilum Dominianum.

H.H.—Liparis bituberculata, Lindl., and Angræcum Moloneyi, Rolfe.

We have received from the Agricultural and Horticultural Association, 92, Long Acre, London, W.C., a copy of the One and All Gardening Books, "Children's Gardens," by Mrs. Mabel Edwards Webb. Price one penny, and well illustrated.

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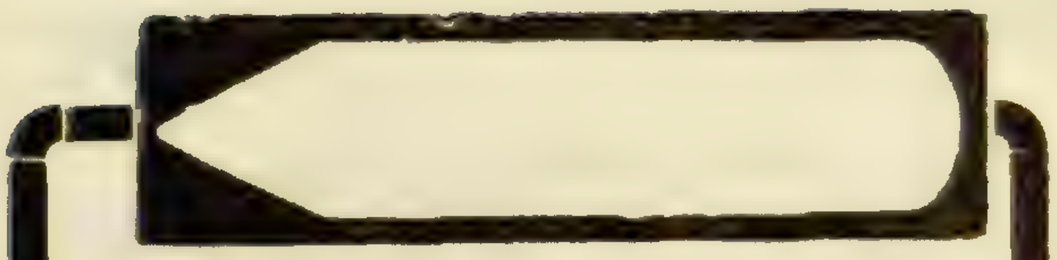

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ORCHID REVIEW:

An Illustrated Monthly Journal.

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THE ORCHID REVIEW.

VOL. XIX.] *AUGUST*, 1911. [No. 224.

OUR NOTE BOOK.

THE great Olympia Show is over, and we confess to a feeling of disappointment. It may have been partly the weather, for the opening day was hot, and the great hall was unshaded, so that the poor plants were exposed to the pitiless rays of a scorching sun which soon left its mark upon them. Had the weather been cool or wet the result might have been different, but surely something might have been done to make the building more suitable for such a show.

"Olympia is a building," the *Journal of Horticulture* remarks, "that is best and most truthfully compared to the inside of a big railway station—something like King's Cross, with both ends closed in. On the occasion of the annual International Horse Show the magnificently grim iron framework roof is draped with tenderly tinted muslin, or similar fabric, while hugh festoons of Wistaria and Roses, and vines—artificial it is true, but quite becoming—screen the walls. Borders of shrubs and gay flowers outline the arena, which has also its parterres at suitable places. At each end there are towering banks of palms and roses, and one end is formed into a monster rock garden. Those who have seen Olympia beautifully draped and decorated like that have seen a palace of loveliness." Such an arrangement would have made an enormous difference, and if the experiment is to be repeated we think that, at all events, some suitable shading should be provided.

Another comment on the great R.H.S. Medal question, to which we alluded last month, has appeared. A writer in *The Garden*, commenting on the letter of the Council to the Chairman of Committees, remarks that he felt constrained to count the Medals stated to have been granted, not by the Committees, but by the judges, with the approval of the Council, at the Temple Show. The number represents many more than any one Committee, perhaps all the different Committees, award all the year round. In his opinion it is such diffuse awards as these which, if anything, tends to make Medals too cheap. At the Temple Show more Gold Medals were

awarded than Bronze ones, but of this he does not complain, as the Award of a Bronze Medal may seem hardly a commensurate award for some of the grand exhibits seen at the Show. "Really," he concludes, "I doubt whether any Committee cares to make such inferior awards as Bronze Medals, still less do I think any exhibitor cares to be the possessor of one."

The "Awards made by the Council" at Olympia is an equally formidable list, some 117 Medals, with nineteen Silver Cups, in addition to the three Challenge Cups. Here the Bronze Medals of different categories number twenty-eight against nine Gold Medals. How many of the different categories come under the heading of Duplicate Medals we do not know, but we have the suggestion of an exhibitor that the whole thing needs amendment. He suggests that instead of recording the awards of Medals, which are only forwarded at the request of the exhibitor, and at his expense, he should have the option of accepting a small money prize to recoup part of the expense incurred in conveying the groups to the Show, often over long distances. At the same time the standard of excellence might be raised, quality and culture being taken into consideration rather than the mere size of the groups. And he would like to see something more in the way of competition. At present it is too much like "Here's a space. Fill it, and make a show, and you will get some award." The great International Exhibition next year promises to be on rather different lines, and if it indicates the way for some improvement it will be a matter for general satisfaction.

After the protracted labours of the Nomenclature Subcommittee of the R.H.S., and of the later Congress at Brussels, we hoped to see something like uniformity of practice in the nomenclature of generic hybrids, but we seem doomed to disappointment. To take two recent cases, we find "Dia-Cattleya Sanderæ" and "Diacattleya Sanderæ" for the same hybrid, and again, "Sophro-Lælio-Cattleya Alethea," "Sophrolæliocattleya Alethea," and "Sophrocatlælia Alethea." Two years ago the R.H.S. Nomenclature Subcommittee recommended that such names should be written without the hyphen—a course which had already been adopted in the *Orchid Stud-Book*—and the Nomenclature Subsection of the Brussels Congress concurred in the practice. The second example mentioned contains a further departure from the "Rules of Horticultural Nomenclature" adopted, and published in our May issue (pp. 130-133). Under the rules for the naming of plurigeneric hybrids it is remarked "the names of the trigeneric hybrids Brassocattlælia and Sophrocattlælia, which are already in use, should be retained." These names should have been spelt "Brassocatlælia" and "Sophrocatlælia" (with a single "t"), as when

originally formed, and with this modification (which is only the correction of a copyist's or printer's error) we think that they should be uniformly adopted. Thus we should write Diacattleya Sanderæ and Sophrocatlælia Alethea when speaking of the two hybrids mentioned at the head of this paragraph.

There is a note by Mr. T. Anstiss in a recent issue of the *Journal of Horticulture* about which we have a word to say. Speaking of the choicer Orchids seen at the Temple Show, he remarks: "First and foremost was M. Vuylsteke's charming little group of about six plants, the best of which was Odontioda Coronation, the price being, we understand, the proverbial £1,000. The plant was labelled Odontioda Vuylstekeæ Coronation, but this was undoubtedly wrong, for it could not possibly be a variety of that famous plant. Odontioda Vuylstekeæ may have been one parent, and a good Odontoglossum the other, but some of our Continental friends are very shy about revealing the parentage of their rarities, and personally I quite agree with them. This Odontioda has, however, one fault; the 'red' is fast disappearing, and for this delightful genus to maintain its popularity, so far as further crossings are concerned, the red colouring must be preserved."

Now we are under the impression that the actual parentage was unknown, for M. Vuylsteke has made several crosses with his original Odontioda Vuylstekeæ, and seedlings out of the same seed-pod have shown a perplexing amount of variation, so that stray seedlings can hardly be allocated to their proper place when they flower. And we are assured that stray seedlings have occurred. Indeed it is almost inevitable unless the seed beds are isolated when the seeds are sown, and the subsequent watering carried out with the greatest care. We should be very sorry to think that raisers were deliberately withholding the parentage of their rarities, and that our journalistic friend was aiding and abetting the same. There are difficulties enough in keeping our records without a complication of this kind, and we think that raisers should consider it a point of honour to give adequate information, so as to have their hybrids recorded as correctly as possible.

We recently put this question to one of our most successful hybridists, and his reply is worth putting on record. He said, "When a hybrid flowers and is exhibited its parentage should be given, if it is known, and if not one should explain why. We get stray seedlings, and when they flower we cannot always tell which batch they came from, though sometimes we can. There is no object in keeping the information back. One

has then got a long start of anyone who tries to raise it again. And if the parentage is not given we who hybridise can tell pretty nearly what was used. Of course until a hybrid flowers and is exhibited one can please himself. He also remarked that it was only fair to those who took the trouble to keep records to give them proper information. It was very well put, and here we may leave the matter.

THE ORCHID STUD-BOOK.

(*Continued from page* 75).

Two instalments of the supplement to the *Orchid Stud-Book* appeared in our February and March issues, and we now give a few additions to the list, at the same time dealing with one or two points on which information was not then available.

ODONTIODA (continued from page 36).

PRIMARY HYBRIDS.

O. CUPID (Cochlioda Nœtzliana × Odontoglossum ramosissimum ♀), *O.R.*, 1911, 159.—Armstrong & Brown. The flower is deep rose-coloured, with very undulate segments, and the crest white.

O. GATTONENSIS (see p. 35), *O.W.*, i. 77, f.

O. GRATA (C. Nœtzliana ♀ × O. tripudians), *O.W.*, i. 83.—Sander, 1910.

O. IGNEA (C. Nœtzliana × O. Lindenii), *O.W.*, i. 81, 83; *O.R.*, 1911, 122.—Graire, 1910. Flowers dark scarlet-red, arranged in a branched panicle. A.M., R.H.S.

O. KEIGLEYENSIS (see p. 35).—*O.W.*, i. 76, f. (Fowler's var.).

O. LOOCHRISTIENSIS (C. Nœtzliana ♀ × O. gloriosum). O. unnamed, *O.W.*, i. 83. Vuylsteke, 1909. This does not appear to have been recorded at the time of its appearance. We suggest the above name for it.

O. ROSEFIELDIENSIS (C. Nœtzliana × O. triumphans), *O.R.*, 1911, 149, 180; *G.C.*, 1911, i. 308, f. 140.—Crawshay. Flowers clear orange-scarlet, with some yellow markings on the lip, and the crest yellow. A.M., R.H.S. An earlier O. rosefieldiensis is a synonym of O. Vuylstekeæ (see *O.R.*, 1911, 148, 149).

SECONDARY HYBRIDS.

O. BOLTONII (C. Nœtzliana × O. Vuylstekeæ ♀), *O.R.*, 1911, 121, 154, f. 19.—Bolton. Flowers large, regularly mottled with scarlet on a light yellow ground. The parentage was at first wrongly recorded.

O. DAPHNE (Odontioda heatonensis × Odontoglossum Edwardii ♀), *O.W.*, i. 81, 83.—Charlesworth, 1910. Said to be most like O. Edwardii in general character.

O. FLORYI (C. Nœtzliana × O. Andersonianum), *O.R.*, 1911, 114. O. unnamed, *O.R.*, 1911, 87.—Sander; Goodson. First exhibited without a name. We do not know if both originally came from the same source.

O. JESSOPIÆ (C. Nœtzliana × O. Queen Alexandra), *O.R.*, 1911, 152.—Mansell & Hatcher. A brilliant carmine flower shaded with magenta, and the crest yellow.

O. LAMBEAUIANA (C. Nœtzliana ♀ × O. Lambeauianum), *Rev. H. Belge*, 1909, 178; *O.R.*, 1910, 170; 1911, 120, 187; *O.W.*, i. 77, 83. O. Corneyana, *O.R.*, 1910, 123, 221.—Peeters, 1909. As the parentage was not originally given our record at p. 36 was imperfect, and we give an amended one. O. Corneyana becomes a synonym.

O. ORNATA (Odontioda Vuylstekeæ × Odontoglossum Pescatorei ♀), *O.R.*, 1911, 183, 244.—Sander. This is a case of a hybrid recrossed with one of the original parents. The flowers are light yellowish, blotched with bright red.

O. PAPILIO (C. Nœtzliana × O. warnhamiense), *O.R.*, 1911, 181.—Colman. The flowers are dark scarlet, with a cluster of yellow markings on the centre of the petals.

O. PIXIE (C. vulcanica × Odontioda heatonensis). O. unnamed, *O.W.*, i. 83.—Charlesworth, 1910. We suggest the above name for it.

O. ROYAL GEM (Odontioda Vuylstekeæ × Odontoglossum armainvillierense), *G.C.*, 1910, i. 354. O. Rosy Gem (*O.R.*, 1910, 183).—Vuylsteke, 1910. The name given at p. 36 is incorrect, so that we have repeated the record.

O. SENSATION (see p. 36), *O.R.*, 1911, 114, fig. 11. We suspect that O. Coronation (*O.R.*, 1911, 187. O. Vuylstekeæ var. Coronation, *G.M.*, 1911, 192, with fig.), of which the parentage is unknown, and for which M. Vuylsteke received a First-class Certificate at the Temple Show, may be a form of the same.

ONCIDIODA (continued from page 74).

O. CHARLESWORTHII (see p. 74), *O.W.*, i. 8, f.

O. CYBELE (C. Nœtzliana × Oncidium sarcodes), *O.R.*, 1911, 212; *G.C.*, 1911, i. 404, f. 180; *G.M.*, 1911, 439, f.—Charlesworth. A.M., R.H.S. Flowers yellow, blotched with light scarlet, and borne in a branched panicle.

O. PENELOPE (see p. 74), *O.W.*, i. 110, f. (with parents). R.A.R.

MICROSTYLIS PUSILLA, Rolfe.—A very small-flowered Chinese Microstylis was recently described under the name of M. minutiflora, Rolfe (*Journ. Linn. Soc.*, xxxviii. p. 367). It was overlooked that there is already a Guatemalan species called M. minutiflora, Schlechter (*Bull. Herb. Boiss.*, ser. 2, vii. p. 540), so that the Chinese plant may be called M. pusilla, Rolfe. It was found at the Yuen Fa Ganges, at 1800 feet altitude, growing on damp rocks, in shade. R.A.R.

SEEDLINGS OF DENDROBIUM FORMOSUM.

ON April 15th last I received from Mansell & Hatcher, of Rawdon, Yorks., a few plants of Dendrobium formosum giganteum, which started into activity promptly, and have made very satisfactory growths. On the 12th of this month (July) I discovered a few seedling Orchids on the roots of some of these plants, the largest being about half an inch in height, and putting out its fourth rudimentary leaf. Two points about this seem very interesting; first, that the seed should retain its vitality so long, for I suppose it must have been nearly six months from the time the plants were gathered to the time they reached my house; and, second, that the seed, after once starting, should make such a growth in less than three months, for I am certain it had not germinated when the plants came to my greenhouse. The roots of the old plants seem to make a better place for germination than our made seed-beds.

F. J. LE MOYNE.

Melvale, Maryland, U.S.A.

This is extremely interesting, and serves to recall a case which was recorded in our pages in 1900 (*O.R.*, viii. p. 314). "Leopold de Rothschild, Esq., Gunnersbury House, Acton (gr. Mr. Hudson), sent a very interesting specimen of Dendrobium formosum giganteum, with several seedlings round it, one of which was in flower. The original plant was imported in 1897, and some seed which was among the roots germinated, and the seedlings have steadily grown on until reaching the flowering stage—a circumstance which says much for the excellent culture of the plant, and which was recognised by the Award of a Cultural Commendation."

A somewhat different case was recorded in 1906, in an account of the collection of the late Sir Frederick Wigan, Bart., Clare Lawn, East Sheen (*O.R.*, xiv. p. 300). Speaking of half-a-dozen seedling plants in bloom of D. formosum, it is remarked: "These are four years old, and have been grown from a mature capsule found on an imported plant. The yellow on the flower varies considerably, in one case being orange-coloured and in another light yellow."

It would appear that seedlings of D. formosum are very easily raised, and as regards the second point mentioned by Mr. Le Moyne it would be interesting to try the roots of an imported D. formosum as a seed-bed, especially for Dendrobiums which do not germinate very readily, while other seeds of the same batch might be sown in the usual way for comparison. The late M. Noel Bernard attributed the failure of many Orchid seeds to germinate in the absence of the necessary symbiotic fungi, and the mass of living roots should be an ideal seed-bed for Dendrobiums that require similar treatment, and possibly for some other genera.—ED.

AËRIDES PALLIDUM.

AT the recent R.H.S. Show held at Olympia a very graceful white Aërides was exhibited by Messrs. Stuart Low & Co., Bush Hill Park, whose identity was doubtful. The inflorescence has now been sent to Kew, and has been identified as probably Aërides pallidum, Blume, a species whose history has been much confused. It was described and figured by Blume in 1848 (*Rumphia*, iv. p. 53, tt. 192, fig. 3, 197, fig. A), as a native of Timor, and the flowers are shown as white, with the apex of the spur yellowish. Shortly afterwards Lindley mentioned the species in an enumeration of the species of Aërides (*Paxt. Fl. Gard.*, ii. p. 143), where, however, he confused it with Dendrocolla pallida, Blume (*Bijdr.*, p. 290), a Javan plant which, without seeing, he had transferred to Aërides (A. pallidum, *Lindl. Gen. & Sp. Orch.*, p. 241), but which is now known as Sarcochilus pallidus, Reichb. f. He also added the locality "Philippines, Cuming." Miquel detected this confusion and re-named the Timor plant A. timoranum (*Fl. Ind. Batav.*, iii. p. 695), omitting the reference to the Philippine plant, and to Paxton's work, which he probably had not seen. The species was afterwards introduced to cultivation by Messrs. James Veitch & Sons, for we find a painting made by Mr. John Day on July 24th, 1884 (*Orch. Draw.*, xliii. t. 65), which is recorded as "in flower at Messrs. James Veitch & Sons, being a plant received by them from the island of Timor, and supposed by them to be Aërides timoranum." He then alludes to its reduction by Reichenbach to A. quinquevulnerum, adding, "it is very like the white variety of that species, which I had a plant of formerly, and which was called var. Farmeri, after Mr. Farmer, of Cheam. A flower of this is drawn in *Sk. Book*, iii. p. 57, and a fine drawing of plant and scape by Mr. Durham." The date of the sketch alluded to is doubtful, but the flowers are described as white, without a spot or stain, and the spur of the lip greenish at the tip. It is probably the A. Farmeri mentioned by Boxall (*Blanco Fl. Filip.*, ed. 3, *Nov. App.* p. 239). Mr. Day made another drawing on June 24th, 1886 (*Orch. Draw.*, li. t. 3), of what he called A. pallidum var. candidum, remarking "This fine pure white Aërides flowered with Messrs. Hugh Low & Co., from a batch of A. Lawrenceæ which they imported from the Philippine Islands. The plant was sold afterwards to Sir Trevor Lawrence, who sent the scape to Prof. H. G. Reichenbach. The plant is not to be distinguished in any way from A. Lawrenceæ."

Whether all the above represent a single species is not quite certain, but the Timor plant introduced by Messrs. Veitch agrees well with the A. pallidum, figured by Blume from that island. Dried specimens are not available for comparison with the plant collected by Cuming, but the latter agrees well with the white one said to have been introduced with A.

Lawrenceæ, and with the drawing of the Timor plant made by Mr. Day. That it is not an albino of A. Lawrenceæ is evident, for this also was drawn by Mr. Day (*Orch. Draw.*, xlvii. t. 43), and has much broader leaves and a differently-shaped spur. The plant called A. quinquevulnerum var. Farmeri looks a little different, but it is difficult to judge from the painting of a single flower. The drawing by Mr. Durham mentioned is, we believe, part of the fine collection now in the library of Sir Jeremiah Colman, Bart., at Gatton Park, Reigate. Messrs. Stuart Low have since stated that the plant reached them from Burma, consequently it was suspected to be a form of A. odoratum, Lour. It is nearer to A. virens, Lindl., but we scarcely think it can be an albino of that species. A. pallidum seems to have been lost to cultivation for some time. R.A.R.

ORCHIDS FROM STREATHAM.

SEVERAL handsome Orchids are sent from the collection of R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. Black). Odontioda Leeana (C. Nœtzliana × O. spectabile) is a charming flower, having light reddish orange sepals and petals, with an undulate deep rose-coloured margin, and the lip wholly buff-yellow with a deeper yellow crest. It is from a batch raised in the collection, and Mrs. Thwaites remarks that it is the first to flower, and that the yellow lip and margined segments make a striking flower. It forms a marked contrast with a dark flower of O. Charlesworthii sent with it. There is also a very fine form of O. Thwaitesii (O. Harryanum × C. vulcanicum) measuring $2\frac{3}{4}$ inches across its broadest diameter, and having chocolate purple sepals and petals, and the lip very broad, and bright lilac purple, with many white splashes round the margin and apex, giving a very bright appearance. It should give some fine seedlings in the next generation if suitably crossed. Two flowers of Odontoglossum Thompsonianum out of the same seed-pod are remarkably distinct, one having the sepals and petals uniform dull chocolate brown, with a narrow lilac margin round the lip, and the crest deep yellow, while the other has light purple sepals and petals, with some confluent chocolate-coloured blotches in the centre, most copious on the petals, while the lip is lilac with some chocolate markings behind the deep yellow crest, thus forming a very bright and pretty flower. The other two flowers are O. crispum xanthotes Charlesworthii, a good round flower, with a few deep yellow spots on the lateral sepals and basal margin of the lip, and O. Uroskinneri splendens, a remarkably handsome form, which obtained an Award of Merit from the R.H.S. when in the Wilson Potter collection, whence it was purchased. The sepals and petals are copiously spotted with dark brown, and the lip very broad and bright purple, slightly marbled with white all over. They form a very charming little group.

ODONTOGLOSSUM OLYMPIA.

THIS handsome Odontoglossum was exhibited by Messrs. Charlesworth & Co., Haywards Heath, at the recent R.H.S. Show at Olympia, and received an Award of Merit. Its parentage is unknown, but we suspect that it is a stray seedling from some batch of known parentage, and that thus its identity has been lost. As will be seen from the figure, the flowers are of excellent shape, and very copiously blotched, the arrangement of the blotches on the petals differing somewhat in different flowers. O. crispum is largely represented, as is evident from the shape of the flowers, the white ground colour, and the red-brown blotches, but without a living flower it is difficult to give a guess at the other parent, the species now being so completely mixed. There is a resemblance to O. Rolfeæ in the shape of the flower and the arrangement of the markings, but we cannot see the details of the column wings and crest, and will only suggest that it may be a form of O. Lambeauianum or something derived from it. We should say that the influence of both O. Pescatorei and O. Harryanum can be traced. The spike is very compact, and whatever its origin it is a hybrid of great beauty. Of course, the same combination of species could be made by a different method of crossing, but in slightly different proportions, for example, O. spectabile x Pescatorei, or O. Harryanum x armainvillierense.

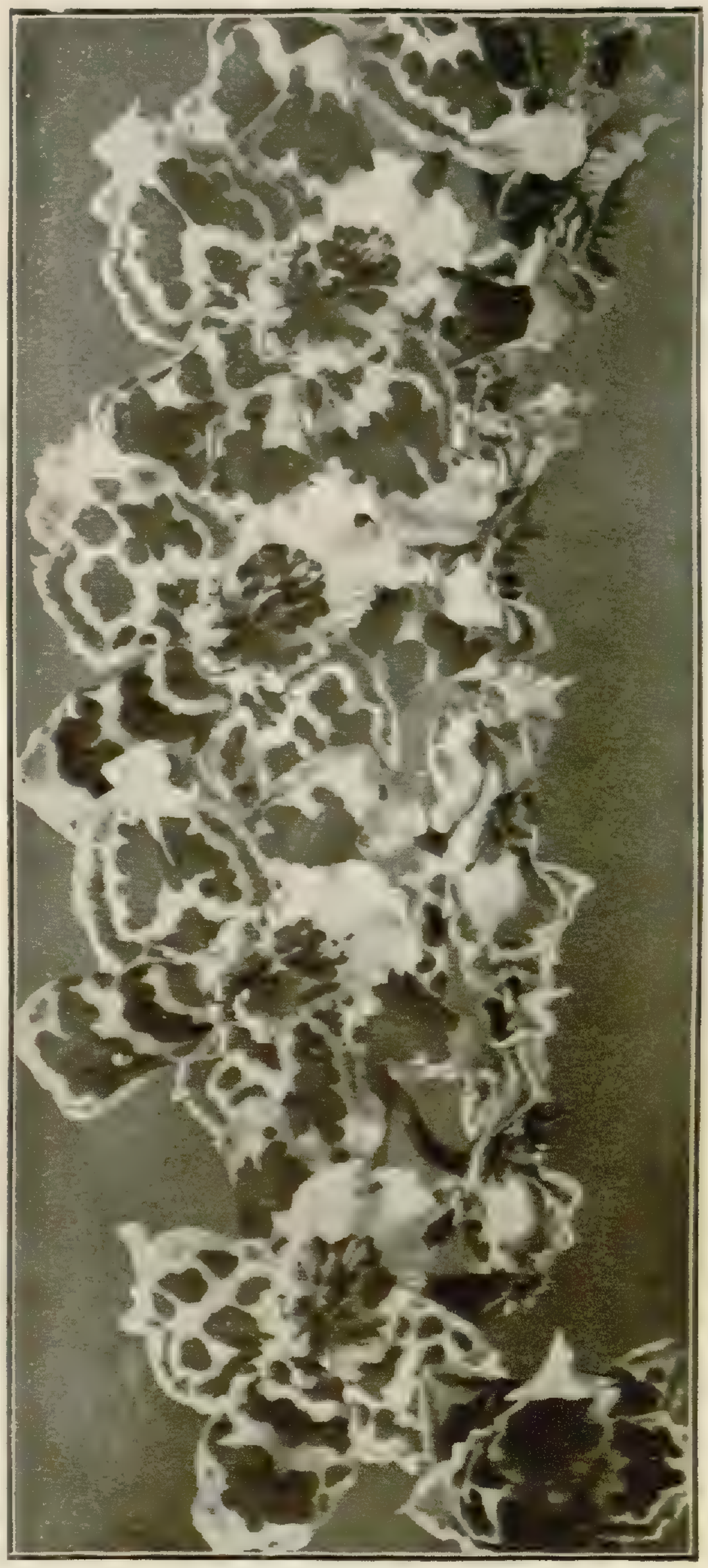

Fig. 26. ODONTOGLOSSUM OLYMPIA.

For the loan of the block we are indebted to the *Journal of Horticulture*.

BLOTCHED FORMS OF ODONTOGLOSSUM CRISPUM.

I THINK I have brought off a most interesting scientific discovery. I was told some years ago, by a collector, that, in his opinion, the blotching in Odontoglossum crispum was obtained from O. tripudians. Why? I don't know. So I worked on this, first getting O. bellatulum (crispum × tripudians), and now crispum × bellatulum, and the result is a pure blotched crispum. I shall show seven or eight on Tuesday next (May 9th), and you will find pure bellatulum, pure blotched crispum, and pure white crispum among them. I hope you will come and see them. The yellow, except in one instance, is entirely suppressed. J. S. Moss.

Wintershill Hall, Bishops Waltham.

This interesting communication was received early in May last, and I regret that absence in Italy prevented my attending the R.H.S. meeting in question, while on my return they were mostly too far gone to send. It has long been thought that many of the so-called blotched forms of O. crispum were of hybrid origin, though a long period elapsed before experimental data were available to form a definite opinion upon, and even now a good deal of evidence available relates to what may be termed parallel developments. There is, however, some direct evidence, as has been already recorded. The experiment made by Mr. Moss shows, in my opinion, one of these parallel developments. We have no evidence that O. tripudians grows intermixed with O. crispum, and we have not seen O. bellatulum matched among imported plants, though its occurrence should be expected if the two species grew intermixed. The resemblance of the secondary hybrids mentioned to a pure blotched crispum, however close it may be, does not, in my opinion, indicate identity of origin, and this for the reasons just mentioned.

The term "blotched crispum" is loosely applied to anything which appears in an importation of O. crispum and is too much like that species to be referred to anything else. An importation of O. crispum may contain plants of O. luteopurpureum, gloriosum, Lindleyanum, Hunnewellianum, or triumphans, according to the district in which the plants were collected, and these would, of course, be recognised when they flower—not always before. It might also contain plants of the natural hybrids O. Wilckeanum, Andersonianum, Coradinei, Adrianæ, or harvengtense, these being indistinguishable from O. crispum until they flower. Other possible hybrids not containing O. crispum may be left out of consideration.

Now the hybrids mentioned may, and we have good reason to believe do, through insect agency, become re-crossed with O. crispum, and recent experiments have afforded some glimpses of the amount of reversion and

variation which takes place. And if reversion appears within two or three generations, what may not have happened in a state of nature, where these same forms have grown together for ages, and have passed through countless generations?

There is, of course, no record of parentage of these wild forms. One can only recognise them as hybrids by their characters, and their extreme variability defies all attempts to classify them with certainty. Some are fairly intermediate, and we regard them as primary hybrids; others are most like one or the other supposed parent, but we cannot be sure whether they are variations of the others or secondary hybrids. Some resemble one supposed parent very closely, and we include them as varieties of that, but they may be reversions from hybrids, just as we find in the case of artificial hybrids. A few show what is sometimes called "just a touch of hybridity," but this is due to incomplete reversion. All these phenomena are shown in the case of what we call Odontoglossum crispum, and evidence of it may be obtained from importations of known origin. The so-called "blotched crispums" are a composite set, and differ according to the district in which they are collected, which is only another way of saying according to the species which grow intermixed with and hybridise with O. crispum. They are not found where the latter grows by itself. The Popayan O. crispum Lehmanni affords an example of the latter fact, for it varies very little, and there is an absence of the blotched varieties found in the other districts (See *O.R.*, xvi. p. 227).

Were the origin of the hybrids above described by Mr. Moss unknown we should be justified in calling them "blotched crispums," and a few years ago could have called them nothing else, which is just where their biological interest comes in. They show "blotched crispums" in the making. They are not simple variations of O. crispum, but secondary hybrids, just as the wild forms are, though not of identical parentage. A few more intercrossings, and perhaps a little self-fertilisation, would probably result in reversions which could not be distinguished from unblotched forms of O. crispum, or which could only be said to show "just a touch of hybridity." We very much wish someone would conduct a similar set of experiments with O. luteopurpurem, Hunnewellianum, gloriosum, Lindleyanum, and triumphans as the second parent, for we believe that this would demonstrate the origin of "blotched crispums" as we actually know them. We should then understand much better what goes on in a state of nature in the crispum districts than we do at present. We commend these experiments to our readers, many of whom are successful raisers of Odontoglossums. If any such experiments have already been made we hope that they will send us the results, and thus help to clear up a very interesting but difficult problem.

R. A. ROLFE.

CALENDAR OF OPERATIONS FOR AUGUST.

By J. T. Barker, The West Hill, Hessle, E. Yorks.

The temperatures and the growing conditions must be maintained as last month, and everything must be done to encourage the plants that are in full growth to develop as speedily as possible. The recent hot and bright weather has been all that could be desired for the inmates of the Warm and Intermediate houses.

Shading and watering must have the closest attention, or else very serious results may be the consequence. Plants may be very seriously injured if the sun is allowed to shine upon them for any length of time, especially when the house is heavily charged with moisture (which it should be during such weather as we have been having lately). The blinds should not be allowed to be down one minute more than is necessary, as the plants should be inured to all the light possible, but not the direct rays of the sun.

Watering must be attended to, as no plant must be allowed to suffer for the want of water at this season; many plants, I believe, lose their roots by being allowed to get too dry during hot weather, when the pots and pans in which they are growing absorb and evaporate a great deal of moisture. Should the hot weather continue, spraying and syringing may be done once or twice every day, but should the weather be at all dull it must be done with discretion, and in no case must an excessive amount be allowed to remain in the centres of the young growths.

Ventilation.—A good circulation of air may be kept up to enable the plants to build up and solidify themselves, so that they may be thoroughly ripened before the winter months are upon us.

Cypripediums of the winter-flowering section, which were potted early in the year, as directed, will now have filled their pots with roots, and must have ample supplies of water, as I believe many cases of malformed flowers are caused by the plants being allowed to get dry at this season.

Dendrobiums of the nobile section, towards the end of the month, must be gone through, and any that have completed their growths must be removed to cooler and drier quarters, but water must not be withheld, and in no case must the plants be allowed to shrivel.

Cœlogyne pandurata, and other varieties, as they pass out of flower, and are seen to be pushing roots from the young growth, may be repotted, should they require it. The compost recommended in previous numbers for the green-leaved Cypripediums will answer their requirements.

Cattleyas of the summer-flowering sections, as they are about to push roots, should be gone through, and any that have the compost at all sour, or likely to become so, before another year, should have attention and be repotted, as I am thoroughly convinced that the state we often see

these plants in, is attributable to neglect in this matter. A good sweet rooting medium is the sure road to success with this class of plants. With proper care and attention there is no reason why anyone with a house where the proper temperatures can be maintained should not succeed with these lovely Orchids. Sophronitis and its hybrids, from a cultivator's standpoint, may be treated the same as Cattleyas, with this difference, that the Sophronitis are best grown in the Cool house and the hybrids in the Intermediate house.

RODRIGUEZIAS (Burlingtonias).—The plants of this genus are amongst the most beautiful of small-flowered Orchids. They are easily grown, and have a free-flowering and compact habit. These dwarf epiphytes thrive best in small pans suspended from the roof in an Intermediate temperature, such as the Cattleya house affords, where, owing to the amount of light and air, the plants make satisfactory progress. As a rooting medium the compost recommended for Cattleyas will answer their requirements. The drainage should be ample, as during the season of growth a free supply of water is necessary, but when the plants are resting, this must be greatly diminished, but not entirely withheld.

MILTONIA VEXILLARIA.—Towards the end of the month plants of this species and its varieties will commence to grow actively; therefore those in need of fresh-rooting material should receive attention as they require it. They are best done when it is seen that they are about to push new roots from the base of the young growth. Large specimen plants that are showing signs of exhaustion should have the old material shaken from their roots, and all useless bulbs removed, leaving only two or three behind each lead. These are best potted up singly in small pots or pans, the strong young vigorous plants being potted on to take the places of the specimens that are broken up. The compost I recommend for them as a rooting medium is as follows: equal parts peat, osmunda and polypodium fibre, sphagnum moss, and clean sifted oak leaves, all thoroughly mixed together. The plants must not be potted too firmly, or be over-watered. Water may be poured amongst the pots or pans in which they are growing, and on hot days they may be slightly sprayed overhead, as they delight in a moist, humid atmosphere. After potting, the plants should be placed in an intermediate temperature, and be shaded from strong sunshine.

MILTONIA BLEUANA.—This is a hybrid of M. vexillaria, and, from a cultural standpoint, may be treated the same, with this difference, that it is more irregular in its flowering season, often producing two batches of flowers in one season. Repotting may be done at any time during the season when new roots are forming above ground from the young growths. These plants, to my mind, are best repotted every season; therefore over-potting must be avoided.

BULBOPHYLLUMS AND CIRRHOPETALUMS.—Any of these botanical curiosities, as they are often called, that have passed out of flower, and are pushing new growths and new roots, may have attention, should they require it. The compost recommended for Miltonias will answer their requirements, and they are best grown in shallow pans, or baskets, suspended from the roof, and the majority of them will succeed best in a shady place, in an intermediate temperature. This class of plant always attracts a great deal of attention when in flower, owing to their strange formation and peculiar characteristics, and no collection is complete where they are not represented.

RENANTHERA IMSCHOOTIANA, having passed out of flower, will now be pushing new roots, and should the compost be exhausted it should be renewed. The compost I recommend is one-third osmunda, the other two-thirds peat fibre and sphagnum moss, all mixed well together, finishing off with a nice clean layer of fresh moss. This plant succeeds best in an intermediate temperature, grown close up to the glass. The conditions under which Vanda cœrulea thrives will answer its requirements. This is a plant which, where room can be found for it, should be grown in quantity, on account of its colour.

ODONTOGLOSSUMS.—Towards the end of the month the members of this family may be gone through, commencing with the smaller growing ones, such as O. Rossii and Cervantesii, and any that require fresh compost should have attention. O. crispum, in fact all Odontoglossums, may be repotted, that is, if they are in a fit state of growth, and where they are grown in quantity, if one starts with the earliest, the later ones will be ready by the time the earliest are done. I find it advisable to clean all plants before they are repotted, as there is no danger then of the plants getting at all wet during the progress of cleaning. The compost recommended for Miltonias will answer the requirements of Odontoglossums.

OUTSIDE PAINTING.—This is a good month to do outside painting and general repairs to houses, and after the spell of hot weather we have recently been having, the wood-work and putty of the houses will be as dry as we can reasonably expect to get them, and this, where the houses have been standing some years, is a consideration, as it is not much use painting wet or rotton wood.

HEATING APPARATUS.—During this month the heating apparatus should be overhauled, and should there be any weak or faulty joints or places they should be made good, so that the winter may be started upon with every advantage and confidence.

GENERAL REMARKS.—A sharp look-out should be kept for insect pests when the lovely weather we have been having breaks up, as I have frequently observed that, after a spell of hot weather, thrip and other pests

seem doubly persistent. I have often thought that they must come into the houses from outside, and to be forewarned is to be forearmed. Prevention is better than cure, and steps should be taken to get rid of such pests, as if they get a footing at this time of year, they are particularly difficult to deal with when more fire heat is a necessity. Towards the end of the month more attention will have to be given to temperatures, and although no harm will occur by slight fluctuations, it is not wise to allow them if they can possibly be avoided. Success in Orchid culture lies entirely in attention to detail, and the more we attend to the small matters the greater will be our reward in the larger ones.

DENDROBIUM AURANTIACUM.

SOME time ago a yellow-flowered Dendrobium, whose identity was uncertain, was introduced from the island of Formosa, by the Yokohama Nursery Co., Japan. It has now flowered with Sir Frank Crisp, Bart., Friar Park, Henley, and with Messrs. Stuart Low & Co., the latter firm having acquired a stock from the Yokohama Nursery Co. It proves to be Dendrobium flaviflorum, Hayata (*Journ. Coll. Sci. Tokyo*, xxx. p. 312), which has recently been described in a paper on the Flora of Formosa, and of which the author, after stating that the precise habitat had not been given, remarks "I remember having seen the plant on Mt. Manapan when I was botanising on the same mountain." It, however, proves identical with D. aurantiacum, Rchb. f. (*Gard. Chron.*, 1887, ii. p. 98), whose history was thus given. "This is a very old friend of mine. I have known it for more than thirty years, and it came in my way at very rare intervals. My first acquaintance with it was made in the garden of Herr Kammerrath Frege, at Abteranndorf, near Leipsic, in 1854. Then it was gathered in May, 1870, in Assam, by my friend Gustav Mann. Both Kammerrath Frege and Gustav Mann were very discontented that I did not publish it, but I had no certainty as to the distinctness of the species, and in 1854 I could not believe in the possibility that a decided East Indian Orchid should have escaped the observation of our lamented Dr. Lindley. In April last it appeared at Chelsea, at Mr. W. Bull's, and the plant being now in the trade judgment cannot be postponed." He then described its characters. Some six months later materials were sent by Messrs. James Veitch & Sons, Chelsea, from an Assamese importation, and I, believing it to be new, and completely overlooking Reichenbach's description, re-described it as D. chryseum (*Gard. Chron.*, 1888, i. p. 233). The two, however, were soon connected together, and afterwards the species was figured (Hook. f. in *Ann. R. Bot. Gard. Calc.*, v. p. 13, t. 21). Later on it was collected near Tachienlu, in the district of Szechuen and the Tibetan Frontier, by Pratt (Rolfe in *Journ. Linn. Soc.*, xxxvi. p. 9), and

now we have it from Formosa, showing that the species is widely diffused.

D. aurantiacum was described as an ally of D. clavatum, differing in having a more slender stem, much narrower leaves, and the inflorescence one-to-three-flowered, with golden yellow flowers, to which may be added the absence of the characteristic blackish blotch on the disc. The bracts and tubular sheaths at the base of the inflorescence very closely resemble those of D. clavatum. R.A.R.

EPIDENDRUM LAMBDA.

AN interesting Epidendrum, which I do not remember to have previously seen alive, was exhibited by Messrs. Mansell & Hatcher at the recent R.H.S. meeting at Olympia. It was unnamed, and after looking the matter up I believe it to be Epidendrum Lambda, Linden & Rchb. f. The species was described as long ago as 1854 (*Bonplandia*, ii. p. 281), from dried materials collected by Wagener in forests in the province of Ocana, at 6,000 to 7,000 feet altitude. It was said to be allied to E. fragans, Swartz, but to differ in having a cordate-triangular acute lip, with three velvety lines at the base. The perianth was described as yellowish ("perigonium flaveolum"), with some radiating violet lines on the lip, which were forked at the apex, recalling the Greek letter Lambda, hence the name. A single flower was sent by Reichenbach to Lindley, which is preserved in the latter's Herbarium, and it agrees so well with those of the plant exhibited that I think it must represent the same species. But for the colour, the living plant might have passed as a form of E. fragrans, but in this respect it is quite distinct. I should describe the sepals and petals of the plant seen as light salmon-colour, with greenish tips to the former, while the lip is cream-yellow with violet lines. The crest is distinctly velvety. Nothing further seems to be known about E. Lambda. R.A.R.

MACODES COMINSII:—This is a handsome Solomon Island species of the Anœctochilus group which was collected at San Cristoval by the Rev. R. B. Comins, who described it as a low plant, very succulent, handsome, leaves red and green, and gave the native name as "Kanora." It was thought to constitute a new genus, and was described under the name of Pseudomacodes Cominsii (Rolfe in *Kew Bull.*, 1892, pp. 127, 128), as it was thought to differ from Macodes in possessing a single thin plate-like appendage in front of the column. The flowers, however, were in rather poor condition. It has since been collected in the same locality by Mr. C. M. Woodford, and proves to have a pair of parallel plates on the column, as in Macodes, to which it must be referred. Mr. Woodford remarks that living plants were sent to England by Micholitz, but we have not yet met with them in cultivation. R.A.R.

SIR FREDERICK W. MOORE, M.A., V.M.H.

OUR readers will learn with pleasure that His Majesty the King, during his recent visit to Ireland, conferred the honour of knighthood on Mr. F. W. Moore, M.A., V.M.H., Keeper of the Royal Botanic Garden, Glasnevin. The intelligence will be received with general enthusiasm, not only as an honour to horticulture, but for the great esteem in which Sir Frederick is universally held. In November, 1909, the Royal University of Ireland conferred on him the degree of M.A., *Honoris Causa*, in consideration of his high scientific position, and of the valuable assistance he has given to the

Fig. 27. SIR F. W. MOORE, M.A., V.M.H.

University for many years in connection with its practical examinations. For years he has also been actively engaged under the Irish Board of Agriculture in the promotion of high-class fruit and vegetable culture among the farmers of Ireland, and his energy and enthusiasm are widely known and appreciated. As an enthusiastic and highly successful Orchid grower Sir Frederick's name is familiar to our readers, and we are not sure that the richest collection of Orchids in the three kingdoms is not the one under his charge at Glasnevin. He has been collecting for years, and nothing in

the shape of an Orchid comes amiss to him. He is also highly successful in their cultivation, being well equipped in the matter of houses for their accommodation, and having a genial climate, with a comparative absence of urban fog, which is the bane of Orchid culture in some districts. And above all, he is highly endowed with the quality of perseverance which goes far to overcome all ordinary obstacles to success. An account of the collection was given at pp. 237-242 of our eleventh volume. Our readers will join with us in congratulating Sir Frederick and Lady Moore, and in wishing them many years of health to enjoy the honour.

SOCIETIES.

ROYAL HORTICULTURAL.

THE great Summer Show was held at Olympia, Addison Road, Kensington, on July 4th, 5th and 6th, and produced a grand display of Orchids. The Official List records the award of one Gold and three other medals, two Silver Cups, two First-class Certificates, seven Awards of Merit, and three Cultural Commendations, all but the latter going to trade exhibits.

The Orchid Committee was present as follows:—Harry J. Veitch, Esq., in the Chair, and Messrs. J. O'Brien (Hon. Sec.), de B. Crawshay, H. J. Chapman, J. E. Shill, H. Ballantine, W. Thompson, A. Dye, H. G. Alexander, F. Sander, Gurney Wilson, J. Charlesworth, F. M. Ogilvie, W. H. White, R. Brooman White, W. P. Bound, W. H. Hatcher, Stuart Low, A. A. McBean, R. G. Thwaites, C. J. Lucas, W. Bolton, H. Little, W. Cobb, G. F. Moore, and E. Ashworth.

Sir Jeremiah Colman, Bart., Gatton Park, Reigate (gr. Mr. Collier), staged a choice group, including a fine example of Anguloa Cliftonii with three flowers, A. virginalis, two plants of the striking Bulbophyllum Ericssonii, B. virescens with two inflorescences, B. barbigerum, Catasetum Colmaniæ, Masdevallia Ajax, M. muscosa, and two plants of M. elephanticeps, Odontioda Vuylstekeæ and Thwaitesii, Acanthophippium sylhetense, Eria pannea and latilabris, two plants of Miltonia vexillaria Queen Alexandra, Pleurothallis stenopetala, the pretty little Waluewa pulchella, Oncidium pumilum and abortivum, Cattleya Rex with four flowers, C. Harrisoniana alba, Odontoglossum Thompsonianum, O. Lady Roxburghe, and a few others.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. H. Day), sent two plants of Cattleya Mossiæ Mrs. A. Goodson, having prettily flaked and striped petals, and another which is mentioned under Awards.

W. Waters Butler, Esq., Southfield, Edgbaston (gr. Mr. M. Jones), showed Læliocattleya Martinetii Southfield var., having buff yellow sepals and petals, and a dark purple throat to the lip.

S. Larkin, Esq., The Ridgways, Haslemere (gr. Mr. Hales), sent Lælio-

cattleya Norba Larkin's var., having bright yellow flowers, with rosy markings on the front lobe of the lip.

H. T. Pitt, Esq., Rosslyn, Stamford Hill (gr. Mr. Thurgood), sent Cattleya Warscewiczii Frau Melanie Beyrodt, bearing two beautiful white flowers, with some rich purple-crimson on the front lobe of the lip.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Læliocattleya rubens, Westfield var. (L. pumila × C. Hardyana), bearing one very large and richly-coloured flower.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. J. Davis), sent two beautiful Orchids which are mentioned under Awards.

Messrs. Charlesworth & Co., Haywards Heath, staged a magnificent group, to which a Gold Medal was awarded. The centre consisted of a bank of Phalænopsis amabilis, with a number of Odontiodas, Miltonia Bleuana, and others, in front, while on either side extended an undulating arrangement of Cattleyas, Læliocattleyas, Odontoglossums, and other good things. We noted beautiful examples of Odontoglossum Lambeauianum, Rolfeæ, percultum, Charlesworthii, Solon, Clytie, Jasper, Eleanor, and crispum, a charming O. armainvillierense xanthotes, some good Disa grandiflora, three good examples of Odontonia Lairesseæ, Cattleya Warneri, C. W. alba, C. Mossiæ Wageneri, C. M. Reineckeana, C. Warscewiczii, Mendelii and others, Odontioda Charlesworthii, Bradshawiæ, Lambeauiana, Vuylstekeæ, keighleyensis, and Cooksoniæ, the striking Schombocattleya spiralis, Oncidioda Charlesworthii, some good Oncidium Lanceanum, macranthum, sarcodes, and O. varicosum Rogersii, several examples of Læliocattleya Sylvia, Œdipus, and others, Habenaria Susannæ, Cycnoches chlorochilon, a fine plant of C. stelliferum with male and female flowers, Sophrocattleya Chamberlainiana and Penelope, several good Anguloa Ruckeri, Cirrhopetalum Mastersianum, Cœlogyne pandurata, Catasetum maculatum, Trichopilia tortilis, Chysis aurea, Dendrobium Dearei, a fine clump of Cochlioda Nœtzliana, Epidendrum vitellinum, Miltonia vexillaria Queen Alexandra with four spikes, Angræcum Eichlerianum, and others, including four handsome things which are mentioned under Awards.

Messrs. Stuart Low & Co., Bush Hill Park, received a Silver Cup for a very fine group, the centre of which was composed of well-flowered Renanthera Imschootiana in a background of maidenhair ferns, with many fine Cattleyas, Læliocattleyas, Odontoglossums, Dendrobiums, &c., on either side. We noted some good examples of Cattleya Warscewiczii, Mendelii, and a number of C. Mossiæ, white and coloured, Odontioda Charlesworthii and Bradshawiæ, the violet-blue Dendrobium Victoria-Regina, D. Brymerianum, D. regium, D. suavissimum, Odontoglossum Pescatorei, O. Thompsonianum, O. armainvillierense xanthotes, O. Williamsianum, Vanda Parishii, teres, and parviflora, Brassia verrucosa, Disa grandiflora, Cochlioda

Nœtzliana, Promenæa citrina, Miltonia vexillaria, Cypripedium niveum, Lælia cinnabrosa, Stanhopea devoniensis and tigrina, Epidendrum prismaticum, Angræcum Scottianum, Bulbophyllum tremulum, Ornithocephalus grandiflorus, Oncidium sarcodes, sphacelatum and varicosum, Octomeria diaphana, Masdevallia calura, muscosa, triaristella, &c., with a pretty white Aërides, which is believed to be A. pallidum, Blume.

Messrs. Mansell & Hatcher, Rawdon, Yorks, also received a Silver Cup for a very fine and well-arranged group, including many good Odontoglossums, Cattleyas, Læliocattleyas and other good things, noteworthy among them being Odontoglossum Uroskinneri album with two strong spikes, O. Wallisii, a clump of O. Wilckeanum, with six spikes, O. amabile, O. Clytie, a lot of Læliocattleya Martinetii and Canhamiana, the rare Vanda Charlesworthii with eight flowers, some well-flowered Masdevallia coccinea, Phalænopsis amabilis, Odontioda Charlesworthii and Bradshawiæ, Cattleya Mossiæ Wageneri, C. Gaskelliana alba, C. Warscewiczii, Brassavola Digbyana, Lycaste Deppei, Anguloa Clowesii, Pleurothallis scapha, Cirrhopetalum biflorum, Bifrenaria inodora, Cycnoches chlorochilon, Dendrobium Dearei, Cypripedium Rolfei, Luisia Amesiana, the rare Coryanthes speciosa with three spikes and eight flowers, Polystachya bulbophylloides, Cœlogyne pandurata, Dendrobium Sanderianum, and a good plant of Anœctochilus setaceus; also a handsome Cattleya which is mentioned under Awards.

Messrs. Sander & Sons, St. Albans, received a Silver Flora Medal for a choice group, including Odontioda ornata Princess Mary with a fine inflorescence, the flowers being well blotched with red on a white ground, and the margin rosy, O. Zephyr var. Brilliant, Cattleya Warscewiczii Sanderiana with a spike of seven immense flowers, Odontoglossum versicolor (spectabile × percultum), a well blotched flower, and four others which are mentioned under Awards.

Mr. E. V. Low, Vale Bridge, Haywards Heath, received a Silver Banksian Medal for a good group, including a beautiful Cattleya Eldorado Wallisii, C. Mossiæ Wageneri, C. M. Imperator, C. Dietrichiana, C. Rothschildiana, Bulbophyllum barbigerum with three spikes, B. virescens, Læliocattleya Clive, two plants of Sophrocattleya Chamberlainiana, Oncidium macranthum, Cœlogyne pandurata, a number of Cypripedium callosum Sanderæ, Odontioda Bradshawiæ, Læliocattleya Canhamiana, Odontoglossum crispum Mirabeau, suffused with lilac-purple, and others.

Mr. H. Dixon, Spencer Park Nursery, Wandsworth Common, received a Bronze Banksian Medal for a small group, including some good Cattleya Mossiæ and Mendelii, Oncidium sphacelatum, Cochlioda Nœtzliana, Odontoglossum crispum, Wiganianum, Adrianæ, and Wilckeanum, Lycaste Deppei, Cœlogyne pandurata, and a few others.

Mr. G. F. Waters, Balcombe, Sussex, sent a few plants of Cattleya Mendelii, Odontoglossum crispum, O. excellens, O. Wiganianum, and Oncidium prætextum, all being unnamed.

FIRST-CLASS CERTIFICATES.

LÆLIOCATTLEYA SYLVIA (Ascania × Hippolyta).—A very richly-coloured hybrid, having clear chrome yellow sepals and petals, and the front of the lip ruby-crimson, margined with pale yellow. Exhibited by Messrs. Charlesworth & Co.

ODONTOGLOSSUM ARDENTISSIMUM QUEEN MARY (Pescatorei × crispum).—A very beautiful variety, having large white flowers heavily blotched with violet, and broadly margined with white. Exhibited by Messrs. Sander & Sons.

AWARDS OF MERIT.

CATTLEYA DUPREANA (Warneri × Warscewiczii).—A very fine and richly-coloured hybrid, most like the former in general shape, having rose-purple sepals and petals, and the front lobe of the lip rich purple-crimson. Exhibited by Messrs. Charlesworth & Co.

CATTLEYA MOSSIÆ ALBA QUEEN MARY.—A very beautiful white variety having a yellow throat to the lip, and some clear pink markings in front. Exhibited by Messrs. Mansell & Hatcher.

LÆLIOCATTLEYA MARTINETII KING GEORGE (C. Mossiæ × L. tenebrosa).—A very beautiful form, having large bright rose-purple flowers, with a deep claret-coloured lip. Exhibited by Messrs. Charlesworth & Co.

ODONTIODA BRADSHAWIÆ SANDER'S VAR. (C. Nœtzliana × O. crispum).—A large and richly-coloured form, having the centre of the segments rich cherry red, with rosy margin, and the lip handsomely blotched. Exhibited by Messrs. Sander & Sons.

ODONTOGLOSSUM AMABILE THE QUEEN.—A very large and beautiful flower, with some violet blotches forming a zone at the base of the segments. Exhibited by Messrs. Sander & Sons.

ODONTOGLOSSUM EXIMIUM KING GEORGE (armainvillierense × crispum.—A very rich red-purple form, with a white margin to the sepals and petals, and the front of the lip white. Exhibited by Messrs. Sander & Sons.

ODONTOGLOSSUM OLYMPIA (parentage unknown).—A large and handsome hybrid, approaching a heavily blotched O. crispum, and having white flowers barred and blotched with red-brown. Exhibited by Messrs. Charlesworth & Co.

CULTURAL COMMENDATIONS.

ANGULOA CLIFTONII.—A finely-grown plant with six large yellow flowers, marked with purple at the base of the segments. To Mr. J. Davis, gardener to J. Gurney Fowler, Esq., Glebelands, S. Woodford.

CATTLEYA MOSSIÆ WAGENERI.—A fine plant with about seventy bulbs

and thirteen flowers. To Mr. G. H. Day, gardener to H. F. Goodson, Esq.

ONCIDIUM MACRANTHUM.—A finely-grown plant, bearing over 300 flowers, which were trained in pyramidal shape, and made a fine display. To Mr. J. Davis, gardener to J. Gurney Fowler, Esq.

At the meeting held on July 18th there was a rather small display of Orchids, including two medal groups, while a First-class Certificate and a Cultural Commendation were given to a beautiful specimen of Dendrobium Victoria-Regina.

Orchid Committee present :—J. Gurney Fowler, Esq., in the Chair, and Messrs. James O'Brien (hon. sec.), Harry J. Veitch, de Barri Crawshay, Gurney Wilson, W. Bolton, J. Wilson Potter, R. G. Thwaites, A. A. McBean, W. H. Hatcher, W. Cobb, J. Charlesworth, J. E. Shill, F. J. Hanbury, C. J. Lucas, W. H. White, and Sir Jeremiah Colman, Bart.

De Barri Crawshay, Esq., Rosefield, Sevenoaks (gr. Mr. Stables), sent Odontioda Nemesis (C. Nœtzliana × O. Hallii), a well-blotched form of Odontoglossum waltoniense, and a fine purple-tinted form of O. rosefieldiense.

F. J. Hanbury, Esq., Brockhurst, East Grinstead, sent Cattleya Harrisiæ Brockhurst var., a fine form, tinged and veined with deep rose-purple.

Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill), showed a fine example of Læliocattleya elegans Broomeana, having large rose-purple flowers, with a broad purple front lobe to the lip.

Messrs. Stuart Low & Co., Bush Hill Park, staged a good group, including examples of Oncidium Marshallianum, Wentworthianum, Lanceanum, and other Oncidiums at the back, Renanthera Imschootiana, Epidendrum vitellinum, patens and Brassavolæ, the brilliant Disa grandiflora, Odontoglossum constrictum Sanderianum, Cattleya Warscewiczii, Masdevallia Veitchii, calura and peristeria, Miltonia Warscewiczii, Stanhopea tigrina, Dendrobium Dearei, Physosiphon Loddigesii, and other interesting things (Silver Banksian Medal).

Messrs. Sander & Sons, St. Albans, staged a good group of Cattleyas, Læliocattleyas, Odontoglossums, &c., interesting among them being Cycnoches peruvianum, Catasetum maculatum, Stanhopea inodora with a seven-flowered inflorescence, Dendrobium regium, Cattleya intermedia alba, C. Rex with six flowers, Bulbophyllum barbigerum, Bollea cœlestis, Ancistrochilus Thomsonianus, an interesting Gongora, Zygopetalum Sanderæ, Acineta chrysantha, Brassocattleya Leemanniæ, Thorntonii, and others (Silver Banksian Medal).

Messrs. Charlesworth & Co., Haywards Heath, exhibited a choice group, including a plant of the striking Anguloa Cliftonii with three flowers, two

good forms of Vanda cœrulea, the handsome Vanda Joaquimiæ, Cirrhæa saccata, Stanhopea oculata, Satyrium coriifolium and a white-flowered species spotted with rose, Cattleya Alcimeda (Gaskelliana alba × labiata Gilmouriæ), Sophrocatlælia Pandora (S.-l. heatonensis × C. Dowiana Rosita), Læliocattleya Sibyl (C. Mendelii × L.-c. Dominiana, a very charming thing, Cymbidium Huttonii, Odontoglossum Schlieperianum citrinum, and other good Odontoglossums, species and hybrids, forming a very charming series.

Messrs. J. & A. A. McBean, Cooksbridge, sent a pretty little group, including several good Odontoglossum crispum, among which O. c. xanthotes Peeters' var. was noteworthy, Cattleya Mendelii and several fine plants of C. Warscewiczii, a beautiful example of Miltonia Hyeana, with some purple lines at the base of the lip, Dendrobium Dearei, Odontioda Charlesworthii and O. St. Fuscien, Brassocattleya Thorntonii, and several good examples of Cochlioda Nœtzliana.

FIRST-CLASS CERTIFICATE.

DENDROBIUM VICTORIA-REGINA.—A handsome Philippine Dendrobium with violet-blue flowers, becoming paler at the base. Exhibited by Sir Trevor Lawrence, Bart., K.C.V.O., Burford, Dorking (gr. Mr. W. H. White).

CULTURAL COMMENDATION.

DENDROBIUM VICTORIA-REGINA.—The above-named being a very fine plant, bearing upwards of thirty spikes of flowers, a Cultural Commendation was also awarded. It had been grown in the Odontoglossum house.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

The last meeting of the year was held on June 15th, when the Committee was represented as follows: E. Ashworth, Esq. (in the Chair), and Messrs. R. Ashworth, W. Bolton, H. J. Bromilow, J. Cowan, junr., Rev. J. Crombleholme, J. Cypher, W. Duckworth, J. Evans, W. Holmes, J. J. Holden, A. J. Keeling, W. R. Lee, D. McLeod, C. Parker, G. H. Peace, H. H. Smith, W. Stevens, F. K. Sander, H. Thorp, Z. A. Ward, A. Warburton, and P. Weathers (Secretary).

There was a good display of plants, and a First-class Certificate was given to Odontoglossum Chairman, a very fine flower of the O. crispum Graireanum type, and an Award of Merit to Læliocattleya Aphrodite Highfield var., both exhibited by W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse).

The Annual General Meeting was held in the afternoon of the same date, and the officers for the ensuing year were elected as follows: Rev. J. Crombleholme, Chairman; Z. A. Ward, Esq., Vice-chairman; R. Ashworth, Esq., Hon. Treasurer; and H. Arthur, Secretary.

The results of the various annual Competitions were announced as follows :—

CHARLESWORTH'S CUP, for the amateur gaining the highest number of points for plants not previously certificated by the Society, was won by W. R. Lee, Esq.

ROBSON'S CUP, for Odontoglossums, was won by W. R. Lee, Esq.

R. ASHWORTH'S CUP, for general excellence and arrangement, was won by W. R. Lee, Esq.

AMATEUR COMPETITION.—The Society's Gold Medal was won by Z. A. Ward, Esq.; the Silver-gilt Medal by R. Ashworth, Esq., and the Silver Medal by W. Thompson, Esq.

SMALL AMATEUR COMPETITION.—The Society's Gold Medal was awarded to H. Arthur, Esq.

THE first meeting of the 1911-1912 Session was held in the Coal Exchange, Market-place, Manchester, on Thursday, July 6th, 1911. Members of Committee present: Rev. J. Crombleholme (in the Chair), R. Ashworth (Hon. Treasurer), Z. A. Ward, C. Parker, H. Thorp, P. Weathers, W. Holmes, D. McLeod, and H. Arthur (Secretary).

Messrs. Sander & Sons, St. Albans, exhibited a small group of plants, and were awarded a Silver Medal. Several fine hybrids of the Cattleya section were noticeable, as was also a nice specimen of Cattleya Warscewiczii (gigas).

Colonel Rutherford, M.P., Blackburn (gr. Mr. Lupton), staged a few good plants; two nice forms of white Cattleyas, Odontoglossum Rossianæ (Rossii rubescens × Adrianæ), and a well-flowered plant of Odontioda Charlesworthii being noteworthy.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), sent some excellent forms of Miltonia vexillaria, one of which received an Award of Merit.

H. J. Bromilow, Esq., Rann Lea, Liverpool (gr. Mr. Morgan), staged some excellent varieties of the Cypripedium bellatulum section.

A. Warburton, Esq., Haslingden (gr. Mr. Dalgleish), staged Cattleya Mossiæ Bleuana.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), exhibited a fine plant of the Selenipedium section, the four flowers on the spike being well expanded.

Mr. J. Stott, Radcliffe, was awarded a First-class Certificate for a plant of Stanhopea tigrina, a very brightly coloured variety.

Mr. Birchenall, Alderley Edge, made a small exhibit of plants of botanical interest.

At the meeting held on Thursday, July 20th, the members of Committee

present were: Rev. J. Crombleholme (in the Chair), R. Ashworth, Z. A. Ward, W. R. Lee, C. Parker, G. H. Peace, H. Thorp, P. Weathers, J. Evans, W. Holmes, A. J. Keeling, and H. Arthur (Secretary).

Messrs. Sander & Sons, St. Albans, were again awarded a Silver Medal for a nice group of plants, principally hybrid Cattleyas, and two nice plants of Dendrobium regium.

Colonel Rutherford, M.P., Blackburn (gr. Mr. Lupton), exhibited forms of white Cattleyas, and a Cultural Certificate and Silver Medal were awarded to the gardener for a splendid form of Cattleya Gaskelliana alba, carrying five spikes of flowers.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), staged several choice plants, First-class Certificates being awarded to a nice plant of Cattleya Queen Mary (Warneri alba × Mendelii alba), and the rare Dendrobium Sanderæ, and an Award of Merit to Læliocattleya epicasta (C. Warscewiczii × L. pumila).

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), exhibited an exceptionally well-flowered plant of Renanthera Imschootiana, and a very fine form of Cypripedium Fletcherianum.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), staged Cypripedium Vipanii and Cypripedium Antigone.

Mr. E. V. Low Haywards Heath, sent a well-flowered plant of Odontioda Thwaitesii, and a good form of Odontoglossum crispum.

At this meeting two new members were elected.

GRAND YORKSHIRE GALA.

Orchids, as usual, formed a prominent feature at the Grand Yorkshire Gala, which was held at Bootham Park on June 14th, 15th, and 16th, this being the 53rd annual exhibition.

In the class for a table of Orchids twelve feet by five feet there were two exhibitors, Messrs. James Cypher & Sons, Cheltenham, and Messrs. Mansell & Hatcher, Rawdon, and the competition was so keen that they were given equal first prizes. Messrs. Cypher used some excellent examples of Miltonia vexillaria, Læliocattleyas, Brassavola Digbyana and Cymbidium Lowianum, with a number of cut flowers in the background, while Messrs. Mansell & Hatcher had fine plants of Læliocattleya Canhamiana and Fascinator, Cattleya Warscewiczii, Odontoglossum crispum, Renanthera Imschootiana, and others.

In the class for ten Orchids in bloom Messrs. Cypher were again first, their plants of Cattleya Mossiæ, Mendelii, and Warscewiczii, Læliocattleya Canhamiana, Epidendrum prismatocarpum, Miltonia vexillaria, and Oncidium macranthum being very fine. W. P. Burkinshaw, Esq., West Hill, Hessle (gr. Mr. J. T. Barker), was second, his exhibit including fine

examples of Cattleya Mossiæ alba, Miltonia vexillaria magnifica, and M. St. Andre; while the third prize went to Mr. James Sunley, South Milford, for a good group.

The prize for six Orchids also went to Messrs. Cypher, who staged Cattleya Mossiæ, Mendelii, and Warscewiczii, Miltonia vexillaria, Lælio-cattleya Canhamiana, and L.-c. Aphrodite splendens, all in excellent condition. Mr. Burkinshaw was adjudged second with a set of well-grown specimens.

In the class for three Orchids in bloom Messrs. Cypher were first, their plants being Cattleya Warscewiczii with eight fine flowers, Læliocattleya Canhamiana, and L.-c. Pecunia; Mr. Burkinshaw being second, and Mr. J. Sunley third.

For a single specimen, Mr. Burkinshaw was first, with a beautiful example of Cattleya Warneri alba, and Messrs. Cypher second with Læliocattleya Aphrodite purpurea.

Some fine Orchids were also staged in the Non-competitive section, Messrs. Mansell & Hatcher receiving the special Gold Medal for a magnificent group, in which Læliocattleya Canhamiana and Aphrodite, Miltonias, Odontoglossums, Cattleyas, Lælias, Cypripediums, and other Orchids were combined with excellent effect. This group secured the premier prize, presented by Lord Middleton, for the most meritorious exhibit in the Show.

Messrs. Charlesworth & Co., Haywards Heath, received a large Silver-gilt Medal for a small but very choice group, including beautiful examples of Odontioda Charlesworthii and Bradshawiæ, Brassocattleya Veitchii, Læliocattleya Fascinator and Feronia, Cattleyas, Miltonias, Odonto-glossums, and a few others.

Messrs. Sander & Sons, St. Albans, received a Silver-gilt Medal for a fine group of Cattleyas and Læliocattleyas, &c., noteworthy among them being Cattleya Mossiæ Wageneri and some beautiful Læliocattleya Canhamiana.

SARCOCHILUS CECILIÆ.

AN interesting little Orchid is now flowering in the fine collection of Sir Jeremiah Colman, Bart., Gatton Park, Reigate, which we do not remember to have previously seen alive, namely, Sarcochilus Ceciliæ, a Queensland species which was described and figured by F. Mueller, in 1865 (*Fragm. Phyt. Austral.*, v. p. 42, t. 42), from materials collected at Castle Mount, Cleveland Bay, by Bowman. It was afterwards collected at Rockingham Bay by Dallachy, and these are the only two localities given by Bailey in his *Queensland Flora* (p. 1553), but it is said to be common on the rocks of mountainous ranges of the north and south. It was dedicated to Cecilia

Viennot van Maseyk, an enthusiastic French grower of epiphytes ("quæ culturam epiphytarum lujus ordinis in Gallia avide fovit"). It is a dwarf tufted plant, with linear or lanceolate-linear leaves, some two to three inches long, and erect spikes, rather longer than the leaves, with small pink flowers. Ten species of Sarcochilus are now known from Australia, of which S. Fitzgeraldii and S. Hartmannii are occasionally seen in cultivation. R.A.R.

ORCHIDS AT PENARTH.

IT was our pleasure recently to visit the varied collection of Orchids brought together by J. J. Neale, Esq., of Lynwood, Penarth, and which is kept at such a high state of perfection by Mr. H. Haddon, his enthusiastic grower.

The Orchids fill several houses, consisting of one lean-to range, some 95 feet in length, which is divided into four compartments, a span-roof, sixty feet long, with a central and side stages, arranged in three divisions, and a lean-to Odontoglossum house, 100 feet long, with a northern aspect. Of course, at this season, very little was in flower, but there were many plants of interest, some of which we shall mention later on.

The first house we entered contained a collection of Cypripediums, all in the rudiest health, especially several forms of C. bellatulum, which have been grown from quite small pieces. Among those in bloom were a six-flowered inflorescence of the quaint C. Parishii, a grand example of C. Curtisii, C. Rossetti, a hybrid between C. Maudiæ and C. insigne Sanderianum, C. Lawrenceanum, and C. barbatum. In another division we noticed a batch of C. insigne, including large specimens of Harefield Hall var. and Sanderæ, while several seedlings in various stages, and a number of seed pods, proved that hybridisation was in progress. A few Phalænopsis are grown, of which P. amabilis Rimestadiana was in flower, and near by was a batch of the chaste Dendrobium Dearei, with its beautiful white flowers, and two plants of Cycnoches chlorochilon were in bud. In the same house we saw some examples of Scuticaria Hadwenii, suspended near a ventilator and where they receive plenty of light. In such a position Mr. Haddon informed us they flower freely in their season.

The next division contained Dendrobiums, such as nobile and its allies, thyrsiflorum, and quite a large number of the useful D. Phalænopsis, the majority of which were making pseudobulbs much larger than those of previous years.

We now came to the Cattleyas, Lælias, and their hybrids. C. labiata is quite a favourite with Mr. Neale, this species being represented by numerous specimens. Some of the plants pointed out were the beautiful Cattleya Dusseldorfii Undine, a fine form of C. Portia, C. Hardyana, a home-raised hybrid, Brassocattleya Orpheus (C. Trianæ alba × B. glauca), B.-c. Digbyano-gigas, Læliocattleya Nysa superba, a very

dark variety of L.-c. Gottoiana, L.-c. Mrs. Blount, L.-c. Edwena (L. purpurata × C. bicolor), and other popular hybrids. Many have been raised here, and are as yet unflowered, and of them we would mention L.-c. elegans × C. Iris, C. Grossii × C. Germania, L. Perrinii × L.-c. luminosa, C. Forbesii × L.-c. elegans, C. labiata × B.-c. Digbyano-Warneri, L.-c. bletchleyensis × L.-c. luminosa, L.-c. elegans × L.-c. bletchleyensis, C. labiata × L.-c. luminosa, and one said to be L. Jongheana × Sophronitis grandiflora, but in all probability the latter parent is L. cinnabarina, for there are signs of that species in the pseudobulbs. A pretty hybrid from L. Jongheana and L. harpophylla is named L. lynwoodiensis, some being quite yellow, while others possess various shades of orange. A number of seed pods were noticed, and seed of other crosses had recently been sown.

The last portion of this range was filled with a nice lot of Sarracenias, &c., Thunias, Lycastes, Anguloas, Lælia anceps, mostly white forms, such as Dawsonii, Williamsii, and Schrœderiana, while L. majalis, which is cultivated in full sunlight, was growing freely, and produces six or seven flowers from a plant each year.

We next visited the span-roofed range, which contains a miscellaneous collection of Orchids, such as Vandas, Aërides, a group of Cœlogyne cristata, Stanhopeas, several of which are showing flower, Cymbidiums, including the new C. insigne, Bulbophyllums, a grand pan of Anœctochilus Petolos, A. Rollissonii, Cypripedium caudatum, a magnificent specimen of Arpophyllum spicatum, a batch of Lælia purpurata, also the white variety known as alba, and several Calanthes which were coming away strongly, and gave promise of a fine display later on. Several interesting subjects were in flower, such as Epidendrum Wallisii, Oncidium leucochilum, Cattleya Forbesii, which is becoming more scarce as time rolls on, and two baskets of Brassavola cordata, one with eight spikes and the other with ten, each carrying from three to five blooms.

As in most collections, Odontoglossum crispum holds premier position among the cool Orchids, and numbers several thousand plants, which are in a thriving condition. Only a few were in flower, but sufficient to show that the strain is a good one. Other species in bloom were O. Schlieperianum, and O. Harryanum, one plant bearing light yellow flowers. The bright Epidendrum vitellinum was represented by two examples, having eight and seven scapes respectively, while many botanical Orchids, such as Masdevallia peristeria, M. simula, Stelis pauciflora with tiny flat blooms, Restrepia antennifera and trichoglossa, Physosiphon Loddigesii, &c., were noted, each producing a wealth of their curious blossoms. Other plants in this house embraced Disa grandiflora, D. rosea, pushing up several spikes, Stenoglottis longifolia, Dendrobium Jamesianum, and a batch of strong Odontoglossum seedlings.

In the conservatory were several Thunias, such as alba and Marshalliana, and a huge specimen of Sobralia macrantha covered with a mass of its Cattleya-like flowers. Mr. Neale is a keen Orchidist, and takes a great interest in all that pertains to Orchidology, while he is also President of the Cardiff Gardeners' Association. B.

ORCHID HYBRIDISATION.

SEVERAL interesting questions are raised in the discussion on Orchid Hybridisation at the meeting of the Orchid Committee of the German Horticultural Society, which is summarised by Mr. C. F. Karthaus at page 129, and we may now attempt a reply.

M. Beyrodt expressed the opinion that hybrids are often less beautiful than their parents. It may be so, but it is certain that very often they are not. Look at Cattleya Hardyana, Calanthe Veitchii, Miltonia Bleuana, Dendrobium Ainsworthii and its varieties, and some of the Læliocattleyas and Odontoglossums. They are certainly not less beautiful than their parents. Hybrids very often have a new kind of beauty, and some of them are more easily grown and more floriforous than the species from which they originate. We should never have witnessed the present marvellous development of hybridisation without very good and substantial reasons.

Some hybrids are certainly less beautiful than their parents, but this largely arises from unsuitable unions. Plants which have strongly opposed characters should not as a rule be united, the result being generally unsatisfactory. A richly-coloured species crossed with an albino is apt to yield hybrids of undecided intermediate tints, which would justify the remark sometimes made that both parents have been spoilt. But the same parents might yield good results if crossed with plants possessing similar qualities. The object of hybridising should be to acquire new and desirable characters, or to emphasise existing ones, and everything depends upon a suitable selection of parents. There has been a good deal of indiscriminate crossing in the past, but this should be avoided.

As regards albinos the evidence is rather conflicting. Cattleya intermedia alba crossed with C. Mossiæ Wageneri yields true albinos, the batch of C. Dusseldorfii var. Undine being all white. In some cases crosses between albinos, or reputed albinos, have yielded coloured forms, but both albinos and coloured forms have occasionally resulted from the same cross. It has been suggested that in some such cases the parents were not true albinos, but it hardly applies to all, for there are albinos which come true from self-fertilised seed, yet if intercrossed the resulting hybrids revert to coloured forms.

Mr. Beyrodt remarks that secondary hybrids, especially, have often disappointed him. It is not an uncommon experience, but there are many

brilliant exceptions. One wishes he had given examples of these disappointing cases, so that some opinion about them might be formed. We should not expect good results from Cypripedium insigne Sanderianum × insigne. The beauty of the former depends upon its yellow colour. It could not be used to increase the size or colour of the blotches, and we should only cross it with another good yellow, in the hope of getting an improved yellow among the seedlings.

It may be that the cause of disappointment is the large amount of variation and reversion commonly met with in secondary hybrids. We have seen numerous examples of this, but if the parents have been judiciously chosen there are nearly always a few seedlings which possess desirable qualities, and the poorer forms can easily be discarded. A small percentage of improvements is perhaps all that need be expected.

The experiment suggested by Dr. Witt, of selecting the best forms of a species and intercrossing them, is thoroughly sound, and we have often wondered why it is not more practiced. The answer may be that it is cheaper to import them, and that plenty of good forms are obtained in this way. Still, there are cases where it would be well worth trying. But it is a perfectly distinct question, and would not do away with hybridising.

Mr. Janke complains about the difficulty of germinating the seeds, but this would apply equally to raising seedlings without hybridising, and in any case the difficulty can be got over by adopting suitable methods, for seedlings of many genera can now be raised with the utmost facility.

Variation of hybrids from year to year has already been mentioned in our pages, and it is a matter on which we are particularly desirious of obtaining information. We scarcely think it can be common.

As regards hybridising generally, we agree with Mr. Karthaus that we are only at the beginning of a great development, and we think that Hybridisation and Selection will continue to play a great part in the improvement of our collections in the future.

We hope that our readers will give us their ideas on some of the points raised, and particularly their experiences with secondary hybrids.

ORCHIDS IN SEASON.

Two interesting hybrids are sent by Mr. C. F. Karthaus, Potsdam, Germany. The first was raised from Cattleya Gaskelliana alba × Lælia tenebrosa, and thus will be a form of Læliocattleya Eva. It is fairly intermediate in shape, and has light yellow sepals and petals, and some purple in the throat of the lip. The other is from L. purpurata × L.-c. Canhamiana, and has white sepals and petals, and a very rich purple lip, with a little yellow deep down in the throat. It is most like L. purpurata, but more compact in shape and richer in colour. It is proposed to call it

Læliocattleya Muelleri, in compliment to Mr. Gustav H. Muller, the great Dutch amateur Orchidist.

A richly-coloured form of Cattleya Mossiæ is sent from the collection of G. Hamilton Smith, Esq., of Finchley, by Mr. Coningsby, together with a light form of C. Mendelii. A hybrid derived from Lælia Latona × Cattleya Schilleriana may be left until the plant becomes stronger.

ORCHID NOTES AND NEWS.

MEETINGS of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, on August 1st and 29th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon. Owing to the redecoration of the Hall there will be no Show on August 15th, but the Orchid Committee will sit upstairs at the usual hour, and plants, &c., for Certificates (only) will be received.

The Manchester and North of England Orchid Society have issued the programme of their 1911-1912 session, the dates of meetings being as follows :—

1911. (Thursdays).	1912.
July 20.	January 11, 25.
August 10.	February 8, 22.
September 14, 28.	March 7, 21.
October 12.	April 4, 18.
November 2, 16, 30.	May 2, 16, 33*.
December 14, 28.	*Date of Annual Meeting.

Several competitions are being arranged for the present session, particulars of which will be given when the list is completed.

The Committee meets at noon, and the exhibits are open to members and the public from 1 to 4 p.m. Exhibits should be staged by 11.30 a.m. Mr. H. Arthur, Pine Villas, Millington Road, Blackburn, has been appointed Secretary for the coming year.

CYCNOCHES STELLIFERUM.

AN interesting plant of Cycnoches stelliferum was exhibited by Messrs. Charlesworth & Co., Haywards Heath, at the recent Olympia Show. It bore four female flowers, two at the base of a long male inflorescence, and two on a separate inflorescence. The flowers of both sexes are light green. It is the plant formerly figured as C. Egertonianum var. viride (*Lindl. Bot. Reg.*, 1846, t. 46), also as C. Warscewiczii (*Fl. Mag.*, 1879, t. 381). The latter shows a plant which was exhibited at a meeting of the R.H.S in October, 1879, by Mr. W. Bull, of Chelsea, and received a Botanical Certificate, being then described and figured as a curious Orchid with green

flowers borne on two separate spikes, those on one spike being much larger and totally different in appearance from those on the other—so much so that seen separately they would be taken as belonging to different genera (*Gard. Chron.*, 1879, ii. pp. 493, 505, fig. 78). It is not the original C. Warscewiczii of Reichenbach, and in future must bear the name of C. stelliferum, which was given by Messrs. Loddiges, and recorded by Lindley as a synonym of C. Egertonianum var. viride. The occurrence of both sexes was recorded last year in the collection of the Rev. J. C. B. Fletcher, Mundham Vicarage, Chichester (*O.R.*, xviii. p. 253).

R.A.R.

ORCHID PORTRAITS.

CATTLEYA HARDYANA ROCHFORDIANA.—*Journ. Hort.*, 1911, ii. p. 27, with fig.

CATTLEYA MOSSIÆ ALBA QUEEN MARY.—*Gard. Mag.*, 1911, pp. 506, 513, with fig.

CYPRIPEDIUM CALCEOLUS.—*Garden*, 1911, p. 321, with fig.

CYPRIPEDIUM CHRYSOTOXUM VICTOR.—*Gard. Mag.*, 1911, p. 497, with fig.

CYPRIPEDIUM SPECIOSUM, Rolfe.—*Bot. Mag.*, t. 8386.

DENDROBIUM VICTORIA REGINA.—*Gard. Chron.*, 1911, ii. p. 57, fig. 28; *Gard. Mag.*, 1911, p. 556, with fig.

LÆLIOCATTLEYA FASCINATOR-MOSSIÆ.—*Gard. Chron.*, 1911, i. p. 422, fig. 191.

LÆLIOCATTLEYA MARTINETII KING GEORGE V.—*Gard. Mag.*, 1911, p. 535, with fig.; *Gard. Chron.*, 1911, ii. p. 19, fig. 16.

LÆLIOCATTLEYA SYLVIA.—*Gard. Chron.*, 1911, ii. p. 18, fig. 13.

ODONTOGLOSSUM ARDENTISSIMUM QUEEN MARY.—*Gard. Mag.*, 1911, pp. 493, 506, with fig.

ODONTOGLOSSUM EUROPA.—*Gard. Mag.*, 1911, p. 478, with fig.

ODONTOGLOSSUM OLYMPIA.—*Journ. Hort.*, 1911, ii. p. 51, with fig.

PHAIOCALANTHE SEDENIANA ALBIFLORA.—*Journ. Hort.*, 1911, ii. p. 75, with fig.

SOBRALIA HOLFORDII.—*Journ. Hort.*, 1911, ii. p. 3, with fig.

ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work*].

C. W. Phalænopsis Rimestadiana is incorrect, for the plant is at most only a variety of the original P. amabilis, Blume.

G. I'A. Epipactis media, Bab.

H. H. Angræcum tridactylites, Rolfe.

Received. List of Guatemalan Orchids, from M. Pachecho, Guatemala.

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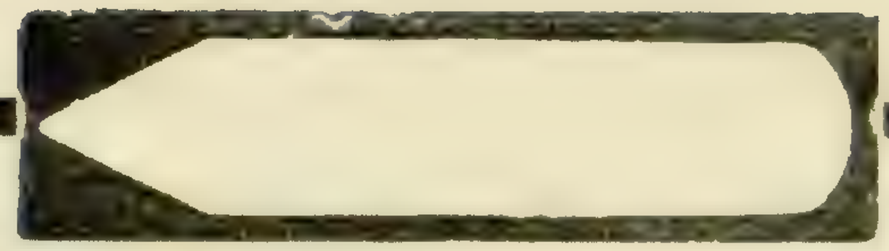

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VOL. XIX., No. 225. THE SEPTEMBER, 1911.

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An Illustrated Monthly Journal.

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THE ORCHID REVIEW.

VOL. XIX.] *SEPTEMBER*, 1911. [No. 225.

OUR NOTE BOOK.

A VERY interesting event in recorded on page 262, namely, the flowering of an artificially-raised form of Læliocattleya elegans. Over sixty years have elapsed since the plant originally appeared, and, naturally, at that period it was described as a species. But soon afterwards Mr. Dominy commenced his epoch-making experiments in hybridising Orchids, and less than thirty years later came Reichenbach's suggestion that the plant was a natural hybrid. The view was not universally accepted at first, but events have proved it true, for it has now been raised artificially by crossing the two suggested parents together.

The event is interesting in several respects, and it may be mentioned as a curious circumstance that the plant was described before either of its parents, though we now know that all three appeared at about the same time, and from the same locality—if not all in the same importation. It is also curious that two quite distinct hybrids—both originally described as species—should have been confused under the same name. We allude to the plants formerly called Lælia elegans alba and L. elegans Turneri, the first—afterwards identified with Læliocattleya Schilleriana—having since been raised artificially on three different occasions.

It will be seen from the account mentioned that it was one of Mr. Dominy's hybrids which indirectly led to the discovery of the origin of Læliocattleya elegans, and we cannot over-estimate the value of the brilliant series of experiments carried out in the establishment of Messrs. James Veitch & Sons, which may be said to have revolutionised the history of Orchidology, both in its horticultural and its scientific aspect. If we know something about natural hybrids to-day it is largely because of a series of experiments which have removed the subject from the regions of speculation to the firm bed-rock of established fact.

It is, perhaps, a little remarkable that the experiment under discussion was not carried out before, for at the time that Reichenbach made his

suggestion, and for long afterwards, Lælia elegans—as the plant was then called—was a highly popular garden Orchid, and it will be seen that a direct appeal was made for the experiment. The fact that Cattleya Leopoldii usually flowers a little later than Lælia purpurata may have interposed a difficulty, and Mr. E. F. Clark, to whom we are indebted for the experiment, had to use what is now technically known as "stored pollen." The success of the experiment is gratifying from every point of view, for a good deal of controversy has taken place about the origin of this plant.

Orchids seem to be perpetually furnishing some surprise, and now we have the record (p. 259) that a plant of Dendrobium Lowii has flowered in an importation of D. Dearei, the one a native of Borneo, the other of the Philippines. Still the two localities are practically adjacent, and, considering how imperfect our knowledge of the geographical distribution of many Orchids really is, it need occasion little surprise to find that somewhere the two species grow together. But if this is the case natural hybrids between them may also occur, and the importation should be watched.

Another addition to the ranks of generic hybrids can now be recorded, a striking novelty, derived from Ada aurantiaca and Cochlioda Nœtzliana, having been exhibited by M. Henri Graire, of Amiens, at the R.H.S. meeting, held on August 29th, under the name of Adioda St.-Fuscien. It is a curious little plant, having nearly equal lanceolate sepals and petals, deep red in colour, and a three-lobed, yellowish lip, tinged with red. Both parents are very brilliantly coloured, and it will be interesting to see what the hybrid develops into when the plant becomes strong. It is, we believe, the first hybrid from Ada aurantiaca to reach the flowering stage, though others are in existence, and their flowering may be anticipated at almost any time.

It will be interesting to note the effect of the present extraordinary season on the inmates of our Orchid houses. The high temperature and the great amount of sunlight have rendered it difficult to keep the Odontoglossum houses cool enough, but plants of the Cattleya group have literally revelled in the tropical conditions, and should make a brilliant display during the coming autumn. A large number of seedling Cattleyas, Læliocattleyas, and hybrids of more complex parentage will be flowering for the first time, and should afford some indication of the progress being made, a matter on which our German friends appear to have some misgivings, judging by a recent discussion in our pages. We think that the rate of progress is being well maintained, and we hope to give evidence of this before the autumn shows are over.

Among Odontoglossums and allied genera the rate of progress has been remarkable, and if one may judge by the thousands of unflowered seedlings in many of our great establishments it is likely to be maintained for a long time to come. What is wanted now is work along definite lines, and with some set purpose in view. A correspondent suggests that blotched Odontoglossums have now become so numerous that more attention should be given to the improvement of albino races, and in this connection we may mention the beautiful O. armainvillierense xanthotes as still one of the best, yet it might be possible to improve it by re-crossing it with the best albino crispums. Indeed we believe this has already been done, but a little time must elapse before the results can be seen.

Hybridising Orchids is, after all, rather slow work, and one must not lose patience because the results are not immediately apparent. The chief thing one can do is to use only good parents, and avoid combining them in such a way as to neutralise their good qualities, and one can then feel pretty sure that some satisfactory results will follow. The inferior forms can easily be discarded.

DENDROBIUM LOWII AND D. DEAREI.

AN interesting piece of information respecting the rare and beautiful Dendrobium Lowii has just come to hand. M. G. Poupardin, Ferrieres-en-Brie, Seine et Marne, France, sends the apex of a pseudobulb, with two flowers and leaves attached, remarking: "I send you a specimen of a Dendrobium which we found in a group of Dendrobium Dearei imported last year, but not having imported the plants ourselves I cannot give the exact locality." The plant is Dendrobium Lowii, Lindl., and agrees exactly with the *Botanical Magazine* figure (t. 5303). Now D. Lowii is a native of Borneo and D. Dearei of the adjacent Philippine Islands, but this information suggests that somewhere the areas of the two species overlap, and it may therefore be interesting to trace their history.

Dendrobium Lowii was originally described by Dr. Lindley about half a century ago (*Gard. Chron.*, 1861, p. 1046), the author remarking: "A most attractive species, imported by Messrs. Low, of Clapton, from Borneo, and exhibited by them at a meeting of the Floral Committee of the Horticultural Society. Fragments of what appears to be the same plant occur among Mr. Motley's Orchids (n. 201), gathered at Banjarmassing. The flowers are admirably beautiful, produced in dense racemes, as many as seven together, and are fully two inches in diameter, of a charming yellow colour, set off in a striking manner by six red lines on the lip, bearing long crimson fringes." Shortly afterwards it was figured in the *Botanical Magazine* (t. 5303) as: "A splendid and remarkable new species,

deservedly dedicated to Hugh Low, Esq., of Labuan, who found it on a mountain 'on the north-west of Borneo, at an elevation of 3,000 feet above the sea level, growing on trees in exposed situations,' whence it was introduced to his father's nursery at Clapton. It flowered in November, 1861."

Over twenty years later a clear yellow variety appeared, which was drawn by Mr. John Day on September 22nd, 1885 (*Orch. Draw.*, xlvii. t. 13), when its history was given as follows: "A variety of Dendrobium Lowii, with yellow instead of the bright scarlet hairs on the labellum which characterise and adorn the species, and which has just flowered with Messrs. Hugh Low & Co. out of an importation of D. Lowii. This is the only plant which has bloomed of this variety, and they have most kindly sent it to me for my Scrap Book. It is interesting as a variety, but inferior to the species in beauty." Shortly afterwards it was described by Reichenbach as D. Lowii var. pleiotrichum (*Gard. Chron.*, 1885, ii. p. 424), as follows: "Mr. Edward Low sends me a flower of a new variety of this rather well-known plant. There are no red lines on the lip, and its basilar laciniæ bear numerous short hairs."

When Mr. Day figured the preceding he remarked: "Another variety has bloomed from this importation, more distinct than this, which the Professor considers a distinct species." This had been drawn by Mr. Day on August 1st, 1885 (*Day, Orch. Draw.*, xlv. t. 73), when its history was given as follows: "A new Dendrobium which has flowered with Messrs. Hugh Low & Co., and which I saw at Clapton, and borrowed from them to make this drawing of. At first I thought it only a variety of D. Lowii, which it much resembles, the plants being just alike, but on pulling the flower to pieces I saw that the labellum of this one was different from that of D. Lowii, so I got them to send flowers to Prof. Reichenbach for his opinion. In addition to the form of the labellum, the hairs on the ridges are very much shorter in the new species. The only difference in the plants that I could detect is that the leaves are a little longer and narrower than those of most of the D. Lowii at Clapton. It was received with them from Borneo." It was then described by Reichenbach (*Gard. Chron.*, 1885, ii. p. 198) as D. erythropogon, n. sp. (hyb. nat. ?), the author adding that the flowers were smaller than in D. Lowii, and the sepals partly ochre-coloured and partly whitish, the petals well undulate, and the column nearly white, with two scarlet spots at the base, as in D. Lowii. "The lip offers the most remarkable marks of distinction. It is very much like those of D. radians." Now D. radians is another Bornean plant which had been received from Messrs. Low in May, 1863, and was described as approaching D. longicornu in structure, and as having white flowers with some crimson stripes on the lip (*Rchb. f. Xen. Orch.*, ii. p. 130, t. 146, fig. 1, 2), and it is

evident that Reichenbach thought D. erythropogon might be a natural hybrid between D. radians and D. Lowii.

D. DEAREI was originally described by Reichenbach, in 1882 (*Gard. Chron.*, 1882, ii. p. 361), as an ally of D. radians and D. sculptum. The materials were sent by Messrs. Hugh Low & Co., but the author remarked that he originally had a couple of dried flowers from Col. Deare (after whom the species was named). The habitat was not stated. On July 7th, 1883, however, it was drawn by Mr. John Day (*Orch. Draw.*, xxxiv. t. 86), who then stated that it was a native of the Sulu Islands, one of the southernmost of the Philippine Islands. He also stated that it had been imported in vast quantities by Messrs. Veitch & Sander. Messrs. Veitch recorded (*Man. Orch.*, iii. p. 37) that Col. Deare found it in 1882, on the Island of Dingat, and added: "It is abundant on several of the small islets off the north-east coast of Mindanao, whence it has since been imported in considerable quantities." Loher has since collected it in Mindanao, and Vidal obtained it in the Island of Rapu-rapu, a small island opposite the Bay of Albay, a little north of the south-east corner of Luzon, which thus extends its area somewhat to the northward.

In no previous case has D. Lowii been reported among importations of D. Dearei, and it would be interesting to know whence the importation mentioned by M. Poupardin was obtained, also if anything else appears in it. Col. Deare visited Borneo, but we have no record of D. Dearei from there, and it may be that a new locality for D. Lowii has been discovered.

R.A.R.

ERIA VESTITA.

THIS striking Eria has just flowered in the collection of C. J. Lucas, Esq., Warnham Court, Horsham. It was described by Lindley, in 1844 (*Bot. Reg.*, xxx. Misc. p. 76) from a plant which flowered with Messrs. Loddiges, of Hackney, the author remarking: "This singular plant, with the structure of a woolly Eria and the habit of a pendulous Dendrobium, is a native of the Indian Archipelago. Dr. Wallich's collectors had it from Singapore, and Mr. Cuming sent it from Manila (?) to Messrs. Loddiges. It is singularly clothed with a thick reddish brown hairiness. The flowers are reddish brown externally, white inside, and hang down in pendulous spikes, which are longer than the leaves." Shortly afterwards it was figured (*l.c.*, xxxi. t. 2). It has since been collected in Malacca and Borneo. It is probable that Cuming's plant was obtained at Singapore, where he also collected, for the Philippine species is the allied E. vulpina, Rchb. f., which is smaller in all its parts. The raceme of Mr. Lucas' plant is over a foot long, and bears about 25 of its remarkably hairy flowers. Its re-appearance in cultivation is interesting.

R.A.R.

LÆLIOCATTLEYA ELEGANS RAISED ARTIFICIALLY.

A PARTICULARLY interesting flower has been sent from the collection of E. F. Clark, Esq., Evershot, Dorset. Mr. Clark writes: "I am sending a flower of a hybrid just flowered by me which appears to be the true Lælio-cattleya elegans. I do not know if this has been raised artificially before, though I know that L.-c. Schilleriana has been more than once. The cross was made on July 14th, 1902, a fine well-spotted Cattleya guttata Leopoldii being the seed bearer. The pollen used was from three varieties of Lælia purpurata—all the pollen masses of a white purpurata with a dark lip (taken on June 17th), one or two of L. p. Russelliana (older), and two of L. p. rosea. I thought all the pollen masses looked doubtfully good, but that of L. p. Russelliana looked best. The seed pod ripened in February, 1903, and some seed was sown on February 10th, and on later dates. The plant is, therefore about 8½ years old, from the date of sowing the seed. I have four or five other seedlings."

This record is particularly interesting, for as long ago as 1877, when Reichenbach suggested that this plant might be a natural hybrid between the two plants now under discussion, he remarked: "It is much to be wished that Mr. Seden may soon raise magnificent hybrids by crossing the two last plants, the more so as, within my knowledge, the demand for Lælia elegans is far greater than can be supplied by the English growers" (*Gard. Chron.*, 1877, ii. p. 424). We have had to wait a long time for the experiment, at last carried out successfully by Mr. Clark, who must be congratulated on his achievement. Some years ago I myself obtained a fine capsule from the same two species, and some of the seeds germinated, but the seedlings eventually died, to my great disappointment.

The flower sent by Mr. Clark is quite typical in shape, and has light rose-purple sepals and petals, with a strongly three-lobed lip, the broad undulate front lobe being rich purple-crimson, also the much-overlapping tips of the side lobes, while the tube and throat are nearly white. It is a bright and attractive flower, and will doubtless improve as the seedling becomes stronger.

Now that the origin of the plant is placed beyond dispute it may be interesting to summarise its history. It was originally described and figured by Ch. Morren, in 1848, under the name of Cattleya elegans (*Ann. de Gand*, iv. p. 93, t. 185), the author remarking that M. A. Verschaffelt had received it from his collector, M. François de Vos, who found it in the Santa Catherina district, and sent it to Belgium. After comparing it with all the species hitherto known he had come to the conclusion that it was undescribed. The figure shows the apex of two pseudobulbs, one with two leaves, the other with one and a sheath, with a two-flowered inflorescence,

the flowers having rose-purple sepals and petals, becoming pallid at the base, and a three-lobed lip, deep purple in front and whitish below.

In 1853 it was figured in the *Botanical Magazine* (t. 4700), under the same name, and is said to have been received from Messrs. Backhouse, York Nursery, as a new species of Cattleya, from St. Catherine's, Brazil. Sir William Hooker remarked that he adopted Morren's name "without subscribing to the opinion that it is a truly distinct species." He then went on to speak of another plant sent by Messrs. Backhouse under the name of "a new Cattleya," also from the island of St. Catherine's, Brazil, the Lælia purpurata, Lindl., "which, though much resembling a Cattleya, must not be confounded with the present species."

In 1853 Lindley himself dealt with the plant (*Gard. Chron.*, 1853, p. 582), remarking: "This brilliant and very rare species has just flowered with Mrs. Lawrence," and after describing its characters he added: "This is reported to be a native of St. Catherine's, in Brazil, whence also came the still more beautiful Lælia purpurata. We must add that this also is a Lælia, if the mere number of pollen masses shall definitely separate the genera Cattleya and Lælia. The pollen masses, although eight, are not, however, of equal size in this species, but four are quite small, and lodged in very shallow sockets in front of the anther."

Soon afterwards it was figured in *Pescatorea* (t. 23), and in 1855 Reichenbach adopted Lindley's view that the plant was a Lælia, calling it L. elegans (*Allg. Gartenz.*, 1855, p. 242), but without adding anything further to its history.

In 1877, when describing the artificial hybrid Lælia Sedenii (Cattleya superba × Lælia devoniensis), Reichenbach suggested that Lælia elegans was a natural hybrid. Commenting on Lælia devoniensis (one parent of L. Sedenii) he remarked that it was "very much like L. elegans; I would even regard it the same, if it was not said to descend from Lælia crispa and Cattleya guttata, when there is—at least of our actual knowledge—at the natal place of elegans no L. crispa to be seen, and no Cattleya guttata, but the next cousins, L. purpurata and Cattleya guttata Leopoldii" (*Gard. Chron.*, 1877, ii. p. 424). This is the earliest suggestion I know of that the plant might be a natural hybrid.

In 1889 I transferred the plant to Læliocattleya, under the name of L.-c. elegans, on the ground that it was a natural hybrid between the two genera (*Gard. Chron.*, 1889, i. p. 619; ii. p. 155), at the same time separating the white forms, then classed under the name of L. elegans alba, but clearly derived from L. purpurata and C. intermedia, under the name of L.-c. Schilleriana. The correctness of the latter view was proved in 1898, when Messrs. Charlesworth & Co. flowered seedlings which they had raised artificially from L. purpurata ♀ and C. intermedia ♂ (*O.R.*, vii. p. 168).

The experiment has been twice repeated, and now the origin of L.-c. elegans has also been proved. Both hybrids are very variable, and of L.-c. elegans a large number of varieties have been described. A full account of them has already been given (*O.R.*, i. pp. 235-238).

It is interesting to note that Lælia purpurata and Cattleya Leopoldii were also discovered and sent home by De Vos, if not in the same importation as the hybrid, though both were described later.

LÆLIA PURPURATA was figured and described by Lindley, in 1852 (*Paxt. Fl. Gard.*, iii. p. 112, t. 96), the author remarking: "One of the most striking novelties which has for a long time been seen was produced by Messrs. Backhouse, of York, at one of the garden meetings of the Horticultural Society, under the name of a new Cattleya from the Island of St. Catherine's, in Brazil. It had, in fact, much the appearance of Cattleya crispa, or of a white C. labiata, but the experienced eye of one of our most acute Orchidophilists suggested to him, at the first glance, that it was probably a Lælia related to L. Perrinii. And such it proved to be when the pollen masses were examined; they are eight, not four." The date of the meeting alluded to was June 12th, 1852, and in the report of the meeting it is remarked: "For ourselves, we have only to point to a most glorious Lælia, from St. Catherine's, in Brazil, called purpurata, exhibited by Messrs. Backhouse, of York" (*Gard. Chron.*, 1852, p. 387).

It afterwards appeared that this very plant was sent home from Santa Catherina, by De Vos, for in 1854, when Ch. Lemaire figured the species (*Ill. Hort.*, i. Misc. pp. 53, 54, with fig.), he stated that, in order to render to Cæsar the things that are Cæsar's, it was necessary to state that the honour of introducing the plant belonged to M. Ambroise Verschaffelt, who received it in 1847 from his intelligent collector, M. F. De Vos, and that the fact was *known* to Messrs. Backhouse when they exhibited the plant. M. Lemaire had previously described and figured it (*Lem. Jard. Fleur.*, iii., t. 275), under the name of Cattleya Brysiana, but, as he explained, a month after Lindley, whose name he adopted in the later work. This plant at the time was stated to have been sent to M. Verschaffelt, in 1850, from the Island of Santa Catherina.

CATTLEYA LEOPOLDII, Versch., was described in 1854 (Lem. in *Ill. Hort.*, i. Misc. p. 68), and afterwards figured (*l.c.*, ii. t. 69), when it was said to have been introduced by M. Verschaffelt from Brazil, through his collector De Vos, who found it growing on the trunks of large trees in the Island of Santa Catherina. It is often known under the name of Cattleya guttata var. Leopoldii, but we believe it to be constantly distinct from the plant originally described by Lindley as C. guttata, which has much smaller flowers, and a more deeply divided lip. This plant is very rarely seen in cultivation.

R.A.R.

CYNORCHIS COMPACTA.

THE annexed figure represents a pan of the charming little Cynorchis compacta, which flowers freely at Kew every year, and is reproduced from a photograph taken by Mr. C. P. Raffill. The species is a native of Natal, and was originally discovered by Sanderson about 1869, and ultimately described by Reichenbach (*Flora*, 1888, p. 149). In 1895 it was rediscovered by Mr. J. M. Wood, on rocks near Emberton, at 2100 feet elevation, and soon afterwards it appeared in cultivation, and was figured in the *Botanical*

Fig. 28. CYNORCHIS COMPACTA.

Magazine (t. 8053). The plant somewhat resembles a small Orchis, seldom exceeding four inches high, and the flowers are pure white, with minute purple dots on the disc of the lip. Each plant bears a single leaf, oblong or ovate-oblong in shape, as shown in the figure, but elongating when fully developed. It succeeds well in a Cool house, forming compact tufts, which remain several weeks in beauty. It should be grown in pots or deep pans, in a mixture of loam and humus, and is of the easiest possible culture.

CALENDAR OF OPERATIONS FOR SEPTEMBER.

By J. T. BARKER, The West Hill, Hessle, E. Yorks.

SHOULD the delightful weather which we have now enjoyed for some time continue, the conditions advised in previous Calendars may be continued, but should it change from the bright sunshine to damp and colder conditions, then the temperatures may be reduced in all departments by a few degrees, proportionate to the prevailing conditions of the weather outside.

Shading must still be used, but used with discretion, and in no case more than is absolutely necessary to prevent the plants from scorching, as by these means it should be our aim to build up and strengthen our plants, so that they may be better able to withstand the winter season which is before them.

VENTILATE as liberally as possible on all favourable occasions, as air at this season is as essential as light in the important factor of ripening the newly-made growths.

DAMPING DOWN may be done less frequently, but, at the same time, a nice moist genial temperature must be maintained, and a hot, dry atmosphere must be guarded against at all times.

COOL HOUSE.—The Cool house must still be kept as low as possible, both night and day. To the inmates of this department, where the houses lay at all bright and dry, the weather conditions recently have been unfavourable, and undoubtedly many plants will have suffered in some way or other from the continued sunshine.

WARM HOUSES.—In all the other departments the plants have enjoyed the conditions, and have made wonderful progress, and apparently have revelled in the heat and light. The temperatures of these departments must have attention, especially during a spell of cold damp weather, which undoubtedly we shall have before the month is out. A little extra fire heat at this season (even if we have to use a little more ventilation to counteract it) is much better than a low cold atmosphere, which should be guarded against in every case.

WATERING at this season must be done with the greatest discretion, always bearing in mind that it is much easier to get a plant, or rather the compost in which it is growing, wet than it is to get it dry again. Likewise much harm can be done by the other extreme of over-dryness, and the happy medium is what we should aim at. No plant should have water applied to it unless it absolutely requires it, neither should it suffer for the want of it. Many plants, even of the same species grown under the same conditions, differ very largely in the amount of moisture they take up, and to be successful every cultivator must know his plants.

We have now passed the best part of the summer, and must prepare for

the dull season by putting our plants into their winter quarters, and cleaning up generally. All houses should be thoroughly cleaned inside and out —glass, woodwork, walls, and staging. The plants, before being staged in their winter quarters, should be thoroughly cleansed of all kinds of dirt and insect pests. Where it has been observed that particular plants do well in a particular position, it is always wise to continue it in that position.

CYPRIPEDIUMS will now be pushing up their flower spikes, which should be neatly tied to stakes to prevent them from twisting. Summer-flowering Cypripediums, as they pass out of bloom, may be repotted, should they require it, using a compost as previously recommended.

DENDROBIUMS that have completed their growths should be removed to the resting house, giving them just enough water to prevent shrivelling. D. Phalænopsis Schrœderianum and D. formosum will now be pushing up their flower-spikes, and in many cases are well advanced, and should have all the light possible to enable them to open their flowers before the autumn fogs are upon us, as these have such a pernicious effect on these beautiful flowers. Evergreen Dendrobiums, such as D. thyrsiflorum, densiflorum, Farmeri, &c., are now fast completing their season's growths. As soon as the shoots have reached maturity a similar treatment should be afforded to that recommended for the deciduous species of this interesting class of plant. The rooting medium should not be allowed to become too dry for long together during the resting period, or irreparable damage may occur.

CATTLEYAS, LÆLIAS, AND THEIR HYBRIDS.—Push on with the potting of these lovely plants as the new roots become active, as a sweet and clean rooting medium is essential to their well-being.

MILTONIAS.—Any plants of Miltonia vexillaria and M. Bleuana that were not done as recommended last month should, if they require repotting, be done now, as soon as ever the young growths are seen to be pushing new roots.

ODONTOGLOSSUMS.—Push on with this section as fast as possible, and keep them well shaded until they get re-established in the new compost. The usual precautions must be taken with newly-potted plants. The plants may be carefully sprayed overhead once or twice a day, when the weather permits. Any back bulbs that are taken off to enable the plants to be placed in a moderate-sized pot should be taken care of, as many of them, if placed in a box, on a layer of sphagnum moss, will produce new growths and make nice plants within a twelve month. The box in which they are placed should be stood well up to the light in the house in which they have been grown.

CHYSIS.—C. aurea, C. bractescens, and other members of this family should be suspended at the warmer end of the Cattleya house, or in the warmer division of the plant stove, so as to enable the growths to finish

quickly, and until this is done, and the leaves commence to change colour, the plants will require plenty of moisture at the root. When well matured they should be placed with the Dendrobiums in the resting house, where they will need very little water during the winter months.

PLEIONES.—Suspended from the roof in a light position, the members of this family have nearly completed their growths or pseudobulbs. They should be well exposed to the light, and as soon as the leaves commence to turn yellow the supply of water must be reduced, the soil being kept just moist so as to encourage the flowering growths. Immediately the foliage has fallen the flower buds will appear, and as the flowers commence to open the compost should be kept comparatively dry, and the plants removed to a cooler and drier temperature, where they will last much longer in bloom than if left in the damp, close atmosphere in which they were grown, and no harm to the plants can result.

MASDEVALLIAS.—Although perhaps not grown at the present day as extensively as they deserve, few plants produce such showy and brilliantly-coloured flowers as M. Veitchiana, M. Harryana, and others of this class. Others are characterised by the singularity and quaintness of their flowers, such as M. gargantua, M. elephanticeps, M. ephippium (Trochilus), M. Mooreana, M. macrura and others, and well deserve a place in our collections. The present is a good time to overhaul any that have passed out of flower, and where a house is devoted to their culture, it should be thoroughly cleaned inside and outside before the plants are put back for the winter months. The compost I recommend for them is one part each of osmunda fibre, peat fibre, polypodium fibre, and sphagnum moss, mixed well together. The stronger growers may have a small quantity of fibrous loam mixed with the compost, but unless this is of the best, is best left out. Pot moderately firmly, keeping the base of the plant about level with the rim of the pot, and be careful not to use too large-sized pots. Plants that are exhausted, or that have lost their roots, may be broken up and potted in small pots, and when well-established, if such appears desirable, they may be placed again in one receptacle. As with most Orchids, the critical time with these plants is during the first three or four months after root disturbance, it being a very easy matter to over-water them, causing them to lose their roots and deteriorate. M. tovarensis, M. Davisii, and others that flower in the winter should not be disturbed at this season, but are better done in February or somewhere about that time. These plants are best kept on the dry side during the dull winter months, but in no case must be allowed to suffer for the want of water, having no pseudobulbs to maintain them.

ONCIDIUMS.—Many varieties of these will be in flower, or pushing their spikes, and these should be staked, and watched carefully that slugs and

other insect pests do not devour them, as it is a great waste of time and material to have the spikes ruined when about to open their flowers.

LÆLIA anceps, L. Gouldiana, and others of the same type will now be showing their spikes in quantity, and the preceding remarks, respecting the staking up of the spikes, &c., apply to them in every way. They should have precisely the treatment laid down for them previously—watering them when dry only, and keeping them close to the roof-glass so that they may enjoy every particle of light possible, and an abundance of air on all favourable occasions, as a close, stagnant atmosphere is harmful to these plants at any time.

VANDA CŒRULEA is another species just now pushing its spikes, which I find grows well under the conditions recommended for Lælia anceps. This plant, though always considered difficult to grow, succeeds admirably here, in fact many quite small pieces have grown into nice plants, which proves that the cultural conditions given are suitable. A great many cases of failure with this most beautiful Orchid are attributable to too much heat and too little air, and, to my mind, want of success must be put down largely to want of knowledge, always providing one has the necessary house.

GENERAL REMARKS.—At this season we must begin to make preparations for getting all our plants into their winter quarters, where they may enjoy all the light possible, and a temperature to suit their various requirements. They should be thoroughly overhauled, and the pots in which they are growing, also those on which they stand, thoroughly cleansed, whilst they can be safely shifted from house to house while the work is being performed. A little planning and forethought will save a great deal of confusion, and enable one to do the work much quicker and more effectually.

THE R.H.S. AWARDS.

IT will be seen from a note at page 287 that on July 18th last two Botanical Certificates were awarded by the Scientific Committee of the R.H.S., and it may be interesting to record the circumstances under which the change was made. These Certificates were formerly awarded by the Orchid Committee.

At a meeting of the Scientific Committee held on March 14th last, Mr. Worsley brought forward a resolution upon the question of granting certificates to plants shown before the Committee. The fact that the Botanical Certificate had (erroneously) come to be looked upon as an award to be made to a plant of no decorative or commercial value was commented upon. The actual intention of the Botanical Certificate was to encourage the introduction and cultivation of plants of intrinsic interest or of potential value, and it is, as stated in the *Book of Arrangements* intended to be awarded to "Plants newly discovered or raised, and of

botanical interest irrespective of decorative value." After further discussion, a sub-committee was reappointed to select plants at each meeting for the full Committee's consideration, the Sub-committee consisting of Messrs. J. T. Bennett-Poë, J. Douglas, C. T. Druery, and A. Worsley. The further discussion of the question was adjourned until the next meeting.

At the meeting held on March 28th, the discussion upon Mr. Worsley's motion that a new Certificate was desirable was continued, but the Committee were of opinion that the existing Botanical Certificate and the Certificate of Appreciation covered all the purposes, at present, for which such awards were required. A resolution was therefore sent to the Council suggesting the desirability of restricting the recommendation of the award of the Botanical Certificate to the Scientific Committee.

THE CERTIFICATE OF APPRECIATION is given to those whose work is attended with Horticultural Scientific interest, or is such as may reasonably be expected to assist in the improving of a strain or in creating a new break.

THE CULTURAL COMMENDATION is given to growers whose exhibits show evidence of great cultural skill.

The Certificate of Appreciation and Cultural Commendation are not given to plants, but to individuals, as a recognition of personal application and skill.

THE FIRST-CLASS CERTIFICATE and AWARD OF MERIT are given to meritorious plants, and sufficiently explain themselves, but in exceptional cases medals may be awarded to such plants, as well as to groups.

The Medal awards are thus described in the Society's *Book of Arrangements* :—

The Gold Medals are the highest awards obtainable; after them rank the Silver-gilt issues, then the Silver, then the Bronze Medals. The medals awarded by the Council from time to time are as follows :—

1. The Lawrence Medal.—This medal is only struck in Gold. It is awarded independently by the direct vote of the Council, who will, as a rule, confine themselves to not more than one medal a year.

2. The Gold Medal.—This medal is struck only in gold.

3. The Flora Medal.—This medal is awarded for flowers and ornamental plants, and is struck in three grades, silver-gilt, silver, and bronze.

4. The Hogg Medal; and 5, the Knightian Medal.—These medals are awarded for fruits and vegetables, and are struck in three grades, silver-gilt, silver, and bronze.

6. The Lindley Medal.—This medal is usually given for exhibits of botanical interest or for exceptional skill in cultivation, and is struck in three grades, silver-gilt, silver, and bronze.

7. The Banksian Medal.—This medal is used in all departments of the Society's work, and is struck in silver-gilt, silver, and bronze.

HOULLETIA WALLISII

THIS interesting Houlletia has reappeared in cultivation, a plant which was introduced by Messrs. Charlesworth & Co., Haywards Heath, from the Cattleya Dowiana aurea district, proving identical with that originally described, which has been lost sight of for many years. It was originally described in 1869 (Lind. & Rchb. f. in *Gard. Chron.*, 1869, p. 611) from materials collected by Gustav Wallis, but the habitat was not stated. Two years later H. chrysantha was described and figured (Lind. & Andre in *Ill. Hort.*, xviii. p. 138, t. 71) from a plant which flowered with Messrs. Linden, Brussels, and which was said to have been discovered by Wallis, in 1868, in the province of Antioquia. Reichenbach afterwards pointed out that the two were identical, and added a variety odontoptera (*Linnæa*, xli. p. 111), differing from the type in having some rough teeth on the side lobes of the lip. According to Reichenbach this flowered at Kew, and is also said to have been collected by Wallis, at about 8,000 feet altitude, near Frontino. Another plant flowered at Kew in August, 1882, and was again figured under the name of H. chrysantha (N. E. Br. in *Gard. Chron.*, 1882, ii. p. 437, fig. 73). H. Wallisii is a striking plant, bearing an erect inflorescence of several deep buff yellow flowers, with numerous red-brown blotches on the sepals and petals, and a large blackish red blotch at the base of the lip. It should succeed in the Intermediate house.—R.A.R.

CATTLEYA WARSCEWICZII.

A CORRESPONDENT writes: "Some time ago I purchased a dozen Cattleyas which were sold as C. gigas. For the past two years they have made vigorous growth, sending up two and three very strong pseudobulbs each, but no flower sheath. I should feel exceedingly obliged if you could tell me the probable cause of this, for the plants appear to be particularly healthy and very strong. This season some of the plants have as many as four strong pseudobulbs, but no sign of flower sheaths. I am not quite certain about them being C. gigas, but I think they are."

[Cattleya Warscewiczii—generally grown under its later name of C. gigas—has sometimes the reputation of being a shy flowerer, though we think that the cause is often incorrect treatment—that is when the plants are strong and properly established. It likes a light position, and we have known plants to flower with the greatest freedom when suspended from the roof and disturbed at the root as little as possible. Williams' *Manual* says: "We have had the best results with it when it was grown in a basket or pot suspended from the roof as near the light as possible, at the warm end of the Cattleya house." We should be glad to have the experience of our readers.—ED.]

CYNORCHIS PURPURASCENS.

CYNORCHIS PURPURASCENS is one of the finest of the Madagascar species, and contrasts strongly with the charming little C. compacta, whose portrait is given on page 265. The species was introduced by M. G. Warpur about ten years ago, and the introducer then stated: "Cynorchis purpurascens

Fig. 29. CYNORCHIS PURPURASCENS.

grows generally on the prostrate stems of a species of Pandanus, near the riverside in the high forest, at an altitude of 1000 to 1200 feet. Sometimes it grows in tufts on Asplenium Nidus, on large trees, at a considerable height above the forest floor. It flowers in March and April, and seems to like an intermediate temperature with much shade" (O.R., ix. p, 10). The

species was originally described about ninety years ago by Thouars (*Orch. Iles Afr.*, t. 15), from dried specimens, collected in the Island of Bourbon, where it was afterwards collected by Balfour. It flowered at Kew in December, 1900, and shortly afterwards was figured in the *Botanical Magazine* (t. 7852). Curiously enough, the name had been usurped by C. Lowiana, Rchb. f., which had previously been figured in the same work as C. purpurascens (t. 7551), though the mistake was at once detected when the true plant appeared. The plant bears a single large leaf, and an

Fig. 30. CYNORCHIS LOWIANA.

umbellate inflorescence of bright purple flowers, with a white blotch on the disc of the lip. It is a plant of easy culture, and succeeds well in a mixture of rough peat and sphagnum moss in an intermediate temperature. Deep pans form suitable receptacles to grow it in. Although the leaves are deciduous, M. Warpur states that the plant is never in a state of complete rest, for as soon as the old leaf and spike are over the rhizome begins to push forth new shoots, consequently it should never be dried off. It requires a plentiful supply of water and moderate shade when actively growing. It may be interesting to recall the note that Sir Trevor Lawrence had last year plants that were still growing in the original fibre in which they were

imported by M. Warpur, which is believed to be that of Asplenium Nidus (*O.R.*, xviii. p. 257).

CYNORCHIS LOWIANA (fig. 30) is another handsome Madagascar species, which was introduced by Messrs. Hugh Low & Co., and described by Reichenbach, in 1888 (*Gard. Chron.*, 1888, i. p. 424). It is the plant figured in the *Botanical Magazine* (t. 7551) under the name of C. purpurascens before the latter appeared in cultivation, but differs greatly in habit, also in the size and appearance of the flowers, as will be seen by the figure. The lateral sepals and spur are light green, and the rest of the flower purple, with a pair of linear red blotches on the disc of the lip. It is easily grown, and we believe the plants in cultivation are from the original importation. It is a very graceful little plant.

Cynorchis kewensis is a hybrid raised at Kew from C. Lowiana ♀ and C. purpurascens ♂, which was described at p. 219 of our eleventh volume.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of this Society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on August 1st, when there was a good display of Orchids, including five medal groups. Two Cultural Commendations and an Award of Merit were given to very worthy exhibits.

The Orchid Committee was present as follows: Sir Jeremiah Colman, Bart. (in the Chair), and Messrs. James O'Brien (hon. sec.), Gurney Wilson, J. Charlesworth, Stuart H. Low, F. J. Hanbury, C. H. Curtis, W. Cobb, W. H. Hatcher, J. E. Shill, A. Dye, H. G. Alexander, W. H. White, J. Wilson Potter, and W. Bolton.

Mrs. Bischoffsheim, The Warren House, Stanmore (gr. Mr. A. Taylor), received a Silver-gilt Flora Medal for a magnificent group of the brilliant scarlet Disa grandiflora, some thirty-five feet in extent, and containing about 120 finely-grown plants, with two to six flowers each, and showing much variation (See Awards).

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. H. Day), staged a group of well-grown Orchids, including Odontoglossum Lambeauianum G. H. Day, O. armainvillierense xanthotes, Odontioda Ernest Henry var. Fairlawn, chocolate red, with some yellow on the lip, Sophrocatlælia Elissa, with copper-red flowers, some fine Cattleya Warscewiczii, a beautiful example of C. W. Frau Melanie Beyrodt, C. Rex, C. Gaskelliana alba with seven flowers, C. Elvina var. Herbert Goodson, with bright rose sepals and petals and a purple-crimson lip, C. Hardyana, Lycaste Skinneri, Anguloa uniflora (eburnea), Cypripedium callosum Sanderæ, C. Lawrenceanum Hyeanum, C. Maudiæ, &c. (Silver Flora Medal).

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park, Reigate (gr. Mr. J.

Collier), sent a good example of Eulophia Ledienii with handsomely variegated leaves, Lælia monophylla with twelve flowers, the handsome Zygopetalum Roeblingianum, Cycnoches chlorochilon, Dendrobium ciliatum, the striking red D. arachnites, a well-flowered Bulbophyllum laxiflorum, four plants of Spathoglottis Fortunei, Cirrhopetalum pulchrum, C. lepidum, and several plants of Catasetum Cliftonii (See Awards).

Rev. J. Crombleholme, Clayton-le-Moors, Accrington, sent Cypripedium Ossulstonii Crombleholme's var., a fine greenish flower with a white dorsal sepal.

E. H. Davidson, Esq., Borlases, Twyford (gr. Mr. F. Cooper), sent a pretty hybrid Cattleya Goossensiana var. Bievreana (Gaskelliana alba × Schilleriana), a pretty blush white flower, with some purple veining on the lip, and C. Caduceus (granulosa × Gaskelliana).

W. James, Esq., West Dean Park, Chichester (gr. Mr. W. H. Smith), was awarded a Bronze Banksian Medal for a small group of the brilliant scarlet Disa grandiflora.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. W. H. White), sent several well-flowered plants of Lælia Bella (grandiflora × purpurata), a handsome hybrid which was figured at page 265 of our last volume, the rare Catasetum apertum, and Eria mysorensis, bearing racemes of white flowers with some purple and yellow on the lip.

Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill), sent a fine plant of the handsome Mormodes eburneum luxatum.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black), sent four plants of the handsome Læliocattleya rubens, with several examples of the pretty Odontioda Thwaitesii, and O. Wilsonii.

Messrs. Charlesworth & Co., Haywards Heath, staged a choice group, including a fine example of Oncidioda Charlesworthii, bearing four tall spikes of rosy mauve flowers, the striking Bollea cœlestis, Zygopetalum Roeblingianum, Mormodes luxatum punctatum, some fine examples of Læliocattleya Canhamiana and Cattleya Warscewiczii, a good Anguloa uniflora, Cirrhæa viridipurpurea, Odontioda Cooksoniæ, Stanhopea oculata, Odontoglossum Othello, and others (Silver Banksian Medal).

Messrs. Sander & Sons, St. Albans, staged a fine group, including some good forms of Cattleya Warscewiczii, C. Dowiana, C. Rex, C. Goossensiana (Bievreana), C. Queen of Sheba, and others, examples of the handsome Dendrobium regium, Cypripedium Neptune, C. Rossetti, Bulbophyllum densiflorum, and other interesting things (Silver Banksian Medal).

Messrs. Stuart Low & Co., Bush Hill Park, Enfield, sent good examples of Odontoglossum Rolfeæ, Dendrobium Dearei, Cattleya flavescens, C. Hardyana, C. Rothschildiana, and others (Bronze Banksian Medal).

Messrs. Armstrong & Brown, Tunbridge Wells, sent Cypripedium

Franconia (callo-Rothschildianum × callosum Sanderæ), a very large-flowered hybrid, having the petals spotted with chocolate-colour, and two others.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent a fine example of Cattleya Hardyana, two C. Rothschildiana splendens, some good plants of C. Gaskelliana alba, and Cypripedium Faire Maude.

AWARD OF MERIT.

CATASETUM CLIFTONII.—An ally of C. Bungerothii having greenish yellow flowers, with a rather open, somewhat 3-lobed and slightly-fringed lip, bearing a prominent orange-coloured callus. Exhibited by Sir Jeremiah Colman, Bart. Several plants were shown, which varied somewhat in shape and colour.

CULTURAL COMMENDATIONS.

DISA GRANDIFLORA.—To Mr. A. Taylor, gardener to Mrs. Bischoffsheim, for the splendidly-grown batch of Disa grandiflora mentioned above.

PHALÆNOPSIS VIOLACEA CLIFTON'S VAR.—To Mr. H. G. Alexander, gardener to Lieut.-Col. Sir George L. Holford, K.C.V.O., Westonbirt. A very fine plant, bearing two spikes of flowers, and the largest leaf about a foot long and eight inches broad.

There was no Show on August 15th, owing to the re-decoration of the Hall, and only a very small attendance of the Committees.

The Orchid Committee was represented as follows: Mr. William Bolton, in the Chair, and Messrs. J. O'Brien (hon. sec.), J. Charlesworth, W. H. White, and Walter Cobb. One First-class Certificate and three Awards of Merit were granted.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford, Dorking (gr. Mr. W. H. White), sent a magnificent spike of Lissochilus giganteus, about twelve feet long, with thirty large rose-coloured flowers, and several buds; also a Trichopilia (See Awards).

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park, Reigate (gr. Mr. J. Collier), showed Odontioda Graireana (C. Nœtzliana × O. Rossii), having the sepals and petals tinged and spotted with red, and the lip white with rose-coloured markings.

J. Gurney Fowler, Esq., Glebelands, S. Woodford (gr. Mr. J. Davis), showed Cattleya Rhoda Fowler's var. (Iris × Hardyana), having pale greenish yellow sepals and petals, and a deep, claret-coloured lip.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. H. Day), sent Læliocattleya Ernestii (L.-c. Ingramii × C. Dowiana aurea), a handsome thing, having a large rose-coloured flower, with the disc of the lip orange-coloured, and the front lobe maroon-crimson; also a Sophrocatlælia (See Awards).

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Læliocattleya Lady Chance (L.-c. elegans Turneri × C. bicolor), having bronzy rose sepals and petals, and a purple lip with a white base.

Messrs. Charlesworth & Co., Haywards Heath, sent a plant of Houlletia Wallisii, with pale yellow flowers spotted with red, Pescatorea Roezlii superba, having white flowers with crimson tips to the sepals and petals, and the new Odontonia Louise (M. Warscewiczii × O. Ossulstonii), having pretty white and rose-coloured flowers; also two others (See Awards).

Messrs. Sander & Sons, St. Albans, sent Brassocattleya Pluto var. pulchra, with nearly white flowers, Cattleya vivicans (velutina × Fabia), having brownish rose sepals and petals, and a broad rosy veined lip, and C. micans (Warscewiczii × Wavriniana).

Messrs. Stuart Low & Co., Bush Hill Park, Enfield, sent a pretty form of Cattleya Dowiana, marbled with rose on the petals, and C. Thurgoodiana (Hardyana × Lueddemanniana), a very handsome hybrid.

FIRST-CLASS CERTIFICATE.

CATTLEYA RHODA VAR. ILLUMINATA (Hardyana × Iris).—A large and handsome form, having broad orange-yellow sepals and petals, tinged and veined with bronzy red, and the broad undulate lip deep purple-crimson, with some purple lines at the base of the orange-coloured throat. Exhibited by Messrs. Charlesworth & Co.

AWARDS OF MERIT.

GONGORA LEUCOCHILA.—A large-flowered form, having reddish purple and white sepals and petals, with some darker blotches, and a white lip. Exhibited by Messrs. Charlesworth & Co.

SOPHROCATLÆLIA GOODSONII (S.-l. heatonensis × L.-c. luminosa).—A handsome hybrid, having broad rose-coloured sepals and petals, with a yellowish shade on the surface, and the lip claret-coloured. Exhibited by H. F. Goodson, Esq.

TRICHOPILIA LEHMANNII.—An ally of T. fragrans, having several spikes of white flowers, with an orange-yellow blotch at the base of the lip. Exhibited by Sir Trevor Lawrence, Bart.

The meeting held on August 29th was marked by the appearance of a new generic hybrid between Ada aurantiaca and Cochlioda Nœtzliana, which was exhibited by M. Henri Graire, of Amiens. Five medal groups were also staged, while an Award of Merit and a Cultural Commendation were given by the Orchid Committee, which was represented as follows: Harry J. Veitch (in the Chair), and Messrs. J. O'Brien (hon. sec.), W. H. White, W. Bolton, Gurney Wilson, H. G. Alexander, Arthur Dye, W. H. Hatcher, W. P. Bound, J. Charlesworth, W. Cobb, J. E. Shill, A. A. McBean, and Stuart H. Low.

The Duke of Marlborough, Blenheim Palace, Woodstock (gr. Mr. Hunter), staged a very fine group of Vanda cœrulea, consisting of about eighty well-grown plants, some of which bore two and three spikes of beautiful bright blue flowers. The plants were effectively arranged with Nephrolepis todæoides, and backed with graceful Cocos Palms, forming a very beautiful picture (Silver-gilt Flora Medal).

M. Henri Graire, Amiens, sent a new generic hybrid, under the name Adioda St.-Fuscien, derived from Ada aurantiaca and Cochlioda Nœtzliana, and combining well the characters of its parents. The flowers are at present rather small, with nearly equal lanceolate red sepals and petals, and the lip 3-lobed, yellowish, and tinged with red.

Sir Trevor Lawrence, Bart., K.C.V.O., Burford (gr. Mr. W. H. White), showed an inflorescence of a very distinct pale greenish yellow form of Dendrobium undulatum.

R. G. Thwaites, Esq., Chessington, Streatham, (gr. Mr. J. M. Black), showed a pretty little group of hybrids, including plants of Cattleya Adula, C. Roupelliana, C. Euphrasia, C. Pittiana, and Odontioda Thwaitesii.

Messrs. Charlesworth & Co., Haywards Heath, staged a choice group, including some brilliant varieties of Cattleya Iris, Renanthera Imschootiana, Miltonia Schrœderiana with a spike of fourteen flowers, a fine plant of Oncidium luridum guttatum, several good Dendrobium Phalænopsis, Houlletia Brocklehurstiana, Sophrolælia Gratrixiæ, Sophrocatlælia Marathon, Brassolælia Veitchii Mikado, Brassocattleya Maroniæ, Vanda cœrulea, Catasetum callosum, Stanhopea oculata, &c. (Silver-gilt Floræ Medal). Two other fine things are mentioned under Awards.

Messrs. Hassall & Co., Southgate, staged a very pretty little group, including several forms of the very variable and pretty Cattleya iridescens (bicolor × Eldorado), C. Thurgoodiana, Læliocattleya elegans Harrisii, L.-c. Issy, several forms of L.-c. Walter Gott, Oncidium Papilio, Miltonia spectabilis Moreliana, Stanhopea Wardii, &c. (Silver Banksian Medal).

Mr. E. V. Low, Vale Bridge, Haywards Heath, staged a very pretty little group, including Cattleya Gaskelliana Phyllis, a pretty light-coloured variety, several good forms of C. Adula, Iris and Pittiana, Læliocattleya bletchleyensis, and a number of Brassocattleyas and Cypripediums (Silver Banksian Medal).

Messrs. Stuart Low & Co., Bush Hill Park, staged a good group, including a centre of Vanda cœrulea, with Oncidium varicosum on each side, together with plants of Oncidium luridum guttatum, O. Lanceanum, Cattleya Whitei, C. Thurgoodiana, C. Dietrichiana, Odontoglossum grande and Harryanum, the handsome Dendrobium Maccarthiæ, D. Dearei and D. formosum, Pescatorea elata, Bifrenaria tetragona, Bulbophyllum papillosum, Masdevallia simula, Cypripediums, &c. (Silver Banksian Medal).

Messrs. Sander & Sons, St. Albans, sent the striking Catasetum reflexum (Rolfe), having greenish sepals and petals barred with purple, and a curious reflexed and much divided lip.

Messrs. James Veitch & Sons, Chelsea, sent two fine plants of Lælio-cattleya Dominiana, with bright rose sepals and petals, and a very dark purple-crimson lip.

AWARD OF MERIT.

HOULLETIA WALLISII.—A striking Colombian species, whose history is given at page 27. Exhibited by Messrs. Charlesworth & Co.

CULTURAL COMMENDATION.

AËRIDES SANDERIANUM.—A very fine plant bearing four spikes. Exhibited by Messrs. Charlesworth & Co.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

AT the meeting held at the Coal Exchange, Manchester, on Thursday, August 10th, the members of Committee present were: Rev. J. Crombleholme (in the Chair), R. Ashworth, C. Parker, Z. A. Ward, J. Evans, W. Holmes, A. J. Keeling, F. K. Sander, and H. Arthur (Secretary).

Colonel J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), staged a very nice group, to which a Silver Medal was awarded. It included several plants of Cattleya Gaskelliana alba, and a well-flowered specimen of the type, C. Warscewiczii, Læliocattleya callistoglossa, a good form of Brasso-cattleya Maroniæ, Cypripedium Maudiæ, and several others.

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), was also awarded a Silver Medal for an excellent group of Cattleyas and Cypripediums, including two good plants of Cattleya Atalanta, one a good dark form, several plants of C. Harrisoniana, a plant of C. Hardyana × Harrisoniana, bearing two well-formed bright flowers, Cypripedium Lord Derby, Rothschildianum, Burtonii, tixallense, and others, with a good Læliocattleya callistoglossa.

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), staged an excellent group, to which a Silver Medal was awarded. The Miltonias were a feature. and the Cypripediums were also good, the latter including C. Rothschildianum and several hybrids from it, notably a nice plant of C. Transvaal, It also included Læliocattleya bletchleyensis, Odontoglossum crispum xanthotes, a very nice form, O. Harryanum and others.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), staged Odontoglossum crispum Perfection, and Miltonia vexillarium superba.

Messrs. Charlesworth & Co., Haywards Heath, staged nice plants of Odontoglossum Aireworth (Lambeauianum × crispum), O. crispum, with an exceptionally large flat lip, Sophrocatlælia Marathon, and Cypripedium Smilax, of the Charlesworthii type.

Messrs. Keeling & Sons, Bradford, staged an excellent form of Cattleya Harrisoniana, var. "Grand Duke," a good dark colour, and C. Vulcan.

Mr. J. Birchenall, Alderley Edge, staged several interesting plants, including Stanhopea Rodigasiana, Bollea Lalindei, Anguloa Clowesii, and a nice form of Cypripedium bellatulum.

AWARDS OF MERIT.

Cattleya Gaskelliana alba, Ashlands var., a fine flower of the variety; Bollea Lalindei, var. cœlestis, a flower of deep colour with bands of intense purple; and Cypripedium Godefroyæ leucochilum, var. Perfection, the petals and dorsal sepal being very broad, with ground colour of deep cream, and very regular markings, forming a good round flower. All were exhibited by R. Ashworth, Esq., Newchurch (gr. Mr. Gilden).

NORTH OF ENGLAND HORTICULTURAL.

A very successful meeting of the North of England Horticultural Society was held at Harrogate on August 15th, in connection with the Show of the Harrogate Agricultural Society. A few good Orchids were exhibited, and were awarded medals by a deputation from the Royal Horticultural Society.

Messrs. Charlesworth & Co., Haywards Heath, staged a choice group of about three dozen plants, noteworthy among them being some good examples of Vanda cœrulea and Kimballiana, Brassocattleya Maroniæ, the handsome Odontonia Lairesseæ, Cattleya Rhoda, C. Vesta, Oncidium Lanceanum, Læliocattleya callistoglossa, L.-c. Colmaniana, Odontoglossum armainvillierense xanthotes, and others (Silver-gilt Flora Medal).

Messrs. Mansell & Hatcher, Rawdon, Yorks, staged a fine group, including good examples of Dendrobium Phalænopsis, Brassocattleya Pocahontas, Vanda cœrulea and Kimballiana, Oncidium Lanceanum, Cattleya Atalanta surperba, C. Jean, Odontoglossum spectabile, Miltonia vexillaria Queen Alexandra, Odontioda Thwaitesii, Cypripedium concolor, &c. (Silver-gilt Flora Medal).

Mr. E. V. Low, Vale Bridge, Haywards Heath, staged a nice group, including Brassocattleya Maroniæ, Cattleya Pittiana, and the richly-coloured C. Iris excelsa, Cypripedium Maudiæ, C. Wm. Lloyd, C. Lawrenceanum Ball's var., &c. (Silver Flora Medal).

Messrs. Keeling & Sons, Westgate Hill, Bradford, sent a few good Orchids, including Cattleya Wavriniana, C. Harrisoniana, Odontoglossum Harryanum, Cypripedium Penelope, and a few others (Bronze Banksian Medal).

The Orchid Committee of the Society awarded Second-class Diplomas to Cattleya Atalanta superba and Cœlogyne asperata, shown by Messrs. Mansell & Hatcher.

VANDA SANDERIANA.

WE learn that another importation of the beautiful Vanda Sanderiana has been received, and it may be interesting to give a figure of the magnificent specimen which flowered in the collection of J. Gurney Fowler,

Fig. 31. VANDA SANDERIANA.

Esq., in October, 1897, to which a Gold Medal was given by the R.H.S. The history of this particular specimen was given by Mr. Fowler as follows: "I purchased the Vanda Sanderiana from Messrs. Low & Co. on

the 15th of August, 1895. It flowered first in September of that year, bearing two flower-spikes and seventeen flowers. It was brought over by Messrs. Low's collector in a large basket, and in the June following I thought it advisable to repot it. It flowered again in October last, with twelve spikes and 137 flowers in all. It has grown in the East India house, on the centre stage, over a large tank of rain water, and has seven growths, three of them being 3ft. 6ins. in height. Since it has been with me it has made four pairs of leaves." One inflorescence of ten flowers was over, and had been removed when the photograph was taken.

It appears to be a difficult species to cultivate, and we wish that our Orchid Collectors would give some further information as to the conditions under which it grows. It is a native of the Island of Mindanao, where it was discovered by Mr. Roebelen, when collecting for Messrs. Sander & Sons, in 1882. The principal station is said to be at Davao, on the south-east coast of Mindanao, at places growing on trees that overhang the beach, and where the long trailing roots are often within reach of the salt spray—conditions which suggest the necessity of a place in the warmest house. It is certainly a very handsome species.

THE AMATEUR'S COLLECTION.

By C. A. HARRISON.

COOL HOUSE.

Two important matters need attention this month, the repotting of Odontoglossum crispum and allies, and a thorough overhauling of the house. Watering all plants in active growth, and those which are in bud and flower, should be practised as advised in the June article, and syringing done as directed. Little shade should be given unless the sun is very scorching, I find it a good plan to lower the blinds from 11 till 2. Before and after these hours the sun is rarely powerful enough to do any harm, and heavily shaded plants will not produce satisfactory growth, nor do they flower so freely.

Look over the stock of Odontoglossum plants carefully, and any which require repotting should be taken in hand at once. After having carefully trimmed the roots, and removed decayed leaves and pseudo-bulbs, place them in fresh pots, usually of the same size as those in which they were previously growing. First put in a layer of clean broken crocks, and on these place the plants, spreading out the roots with care. Fill to within one inch of the rim of the pots with a good rich soil. This should consist of oak leaves, osmunda fibre and sphagnum moss in equal parts. Press the compost firmly about the roots, and take care to see that the base of the pseudo-bulbs is well above the rim of the pot. In cutting away the old

back bulbs, leave only three to support the new growth. Weak plants should be potted very lightly, but those which are strong growing and well rooted, more firmly, using less crocks.

After the potting operations have been finished the work of thoroughly cleaning the house should be taken in hand. Remove all plants from the staging, thoroughly wash this, and syringe all corners and crevices with a strong solution of insecticide. The glass and woodwork should then receive attention, and finally the pots should be scrubbed and the plants rearranged. Place those freshly potted at the warmest end, and those resting at the coolest end. Any necessary top-dressing should be done now.

Oncidium tigrinum, O. varicosum, and its superior variety Rogersii should now be showing spikes, and these should be tied to neat sticks, and a piece of cotton wool wound round the base of the spike as a preventative against slugs.

CATTLEYA HOUSE.

No shading should now be used here, as plenty of sunlight is necessary to thoroughly develop the new pseudobulbs. Any plants which are in flower should be removed to a cooler house, or shaded with tissue paper. Give water and syringe as advised in the last article. The above method of procedure should be adopted in the overhauling of this house.

Should any Vanda cœrulea be in spike, these should be kept slightly shaded, and just moist. Stanhopeas may now be rebasketed, using a compost of osmunda, sphagnum and peat. Be careful to put no crocks in the new receptacle for the flowers are produced from beneath the basket. Keep all resting plants only just damp.

SUGGESTED ADDITIONS.

CYMBIDIUM INSIGNE.—This beautiful species is of recent introduction, and extremely showy. It succeeds well in the Cool house, and should be included in every amateur's collection. It is a very robust grower, and free in flowering when given exactly the treatment which it requires. The flowers are of large size, and firm and fleshy in texture. The sepals and petals are of a pale blush pink, the lip almost white with many spots and markings of a deep carmine. It is entirely different from any which have yet appeared as regards colour, and the blossoms are produced in March and April, and are borne in long racemes.

CATTLEYA DOWIANA AUREA.—This is one of the most beautiful of all Cattleyas. It produces from a sheath at the apex of the last-made pseudobulb large finely-shaped flowers, the sepals and petals of which are of a golden yellow. The lip is broad, handsomely crisped at the edges, of a deep crimson, with radiating lines of gold. It usually blooms in the months of August and September, and continues about three weeks in beauty. It is a native of Antioquia, and owing to many large importations of recent

years, is unfortunately becoming rare in its native habitat. Owing to its beautiful colouring, this Cattleya has proved invaluable to the hybridist, many gorgeous Orchids having this species as one of their parents.

ORCHIDS IN SEASON.

A VERY pretty hybrid, derived from Læliocattleya Lucia × Cattleya Mossiæ Wageneri, has been sent from the collection of the Right Hon. Joseph Chamberlain, M.P., Highbury, Birmingham, by Mr. Mackay, who states that it has been raised in the collection. It may be described as fairly ntermediate in shape and size, while the lip is bright rose-purple in front, and the rest of the flower light yellow. It is a bright and attractive hybrid, and should develop into a good thing.

A striking hybrid, derived from Læliocattleya bletchleyensis and Cattleya Grossii, has been sent from the establishment of Messrs. James Veitch & Sons, Langley, Slough, by Mr. Briscoe. It is said that the Læliocattleya was the mother plant, but, curiously enough, the flower has taken almost entirely the shape of the Cattleya parent, the lip being somewhat recurved and broadly expanded in front, and the side lobes nearly obsolete. The colour is bright rosy purple almost throughout. The seedling is at present very small, and it should develop into a fine thing when the plant becomes strong.

An interesting hybrid is sent from the establishment of Messrs. Sander, & Sons, Bruges, which is said to have been derived from Cattleya calummata crossed with the pollen of Brassavola Digbyana. The lip is very deeply three-lobed, with a broad somewhat reflexed and fringed front lobe, and infolded side lobes, the colour being white. The sepals and petals are greenish white, and rather more elongated than in the seed parent. It is rather curious that the flower should have taken so much after the Cattleya parent in shape and the Brassavola in colour.

The autumn-flowering Cattleyas and Læliocattleyas will soon be making a fine display, particularly the hybrids partly derived from C. Dowiana, Warscewiczii, Leopoldii, and bicolor, with the numerous secondary hybrids in which they are more or less represented. They form a very large and brilliant series. Then there will be the hybrids of Lælia Perrinii and crispa, both very distinct and beautiful, and the fine series raised from L. pumila and Dayana, which are mostly of dwarfer habit, but very floriferous and beautiful. Those from Cattleya labiata and Bowringiana are generally a little later, but the species are now so much mixed that it is difficult to place them in anything like an exact sequence. Vanda cœrulea will also be making a grand display, and with a few other species will keep our houses gay for several weeks to come.

ORCHID NOTES AND NEWS.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, on September 12th and 26th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on September 14th and 28th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 4 p.m.

For the loan of the portrait block of Sir F. W. Moore, used to illustrate our article at page 241, we are indebted to the Editor of the *Gardeners' Chronicle*. The acknowledgement was omitted last month by an oversight.

A very fine plant of Dendrobium aggregatum, growing in the gardens of the Agri-Horticultural Society of Burma, Kandawglay, Rangoon, is figured in a recent issue of the *Gardeners' Chronicle* (1911, ii. p. 82, fig. 38). It appears to be growing on a pillar of some kind as high as the eaves of the house, and bears its graceful pendulous racemes of yellow flowers in profusion. We have never seen it in such perfection in England.

R.H.S. SCIENTIFIC COMMITTEE: The following references to Orchids exhibited at meetings of the Scientific Committee are taken from the Official Report (continued from page 375 of our last volume):—

February 14th, 1911: ODONTIODA × CRAVENIANA.—Mr. R. A. Rolfe showed flowers of this hybrid raised by Messrs. Charlesworth & Co., between Cochlioda Nœtzliana ♀, from Ecuador, and Odontoglossum cordatum ♂, from Mexico, and remarked upon the great differences between the parents. The hybrid was bright scarlet, like the Cochlioda.

February 28th, 1911: FASCIATED ORCHID.—Mr. Gurney Wilson showed a plant of Brassocatlælia Fowleri, in which one of the pseudobulbs had forked before flowering, and both forks appeared likely to flower. Mr. Wilson remarked that malformations of plant and flower appeared to be much more frequent in trigeneric hybrids than in crosses between the species.

April 26th, 1911: GONGORA SP.—Mr. J. O'Brien brought forward a species of Gongora, introduced by the late Mr. Tracy, from Peru. It was apparently a new species, and was referred to Kew.

May 9th, 1911:—

GONGORA TRACYANA.—This plant, shown at the last meeting by Messrs. Tracy, and referred to Kew, proved to be an undescribed species, to which

the name of G. Tracyana, Rolfe, has been given. It was unanimously resolved to recommend the award of a Botanical Certificate, on the ground of novelty.

MALFORMED ODONTOGLOSSUM.—A spike of a form of Odontoglossum crispum from Sir Julius Wernher, of Luton Hoo, bearing several malformed flowers, as well as others of a normal character, was referred to Mr. Worsdell, who reports as follows: "The balance of the spike is quite upset. Most of the flowers are normal, however. The peculiar structure present is due to a compromise between two tendencies, (1) that making for reduction or fission, and (2) that making for multiplication of parts. There is no evidence at all for actual synanthy or for the 'passing of one part of a flower into the next,' as the spatial distribution of the flowers on the spike appears to be normal. On the other hand there is an equal absence of evidence that an increase in the number of flowers on the spike is occurring. In one flower there is a remarkable case of 'positive dedoublement'; four sepals, uppermost (posterior) forked; four ordinary petals (which might have resulted from forking of the lateral ones); one of these four lies exactly in the median plane (anterior); two labella forming with the column a whorl of three within the four ordinary petals; the column is double below, but triple above (there being three anthers). One anther is becoming petaloid. Owing to the causes above mentioned the flower comes to have a larger number of members than usual, and the composition of the whorls is altered, owing to the fact that, under the circumstances, the members must be more or less re-arranged, so as to obey the law of alternations. In the second flower there are three normal sepals, but the anterior one is, in structure and appearance, intermediate between a sepal and a petal, as it has the brown blotches of the former; but it is lighter in colour than the sepals, and has a slight tendency to be fringed at the margin like a petal; there is no present evidence as to its origin, but it perhaps arose by division of the normal sepals, two labella forming with the double column or whorl of three. In the third flower the reductive or fusion tendency has overpowered the other (or multiplicative). The two lateral sepals have fused into a single one in the anterior median plane, but this sepal is triple, and the middle lobe may represent the third sepal-like petal of the second flower referred to, and this is very likely, in which case it would not be accurate to speak of fusion of two sepals. Two labella, one of which is much smaller than the other and has its stalk completely fused with the column. The column is double, but the anthers are much more closely approximated than in the last two flowers (an interesting fact as showing the fusing process). The sepals are more petal-like and larger than usual, as is natural. In the fourth flower the reduction and fusion tendency is all-potent; the flower is 2-merous. It has two

sepals (antero-posterior), the anterior one being very large, owing to fusion of the two normal lateral ones; two lateral petals larger than normal, doubtless correlated with the complete absence of the labellum. The absence of the latter must be attributed either to abortion or to congenital and intimate fusion with the column (an analogy for such a fusion exists in the third flower, and the column has its lateral petaloid appendages larger than usual). The ovary appears to be normal. A very interesting fact is that the bracts subtending, two or three of the flowers showing positive dedoublement, are double, having two tips and two midribs. In such cases the splitting tendency is very powerful, and if it went further would result in the formation of two flowers side by side; these then might become spatially separated in a vertical direction on the axis of the spike. The structure of the dimorous flower has probably, from a morphological point of view, nothing whatever to do with the other malformations, but, physiologically, there may be a connection. Exigencies of nutrition may demand that, if some flowers have an extra number of organs to be fed, other flowers must not be supplied with so many organs, economy in the spike-household being thus maintained."

June 20th, 1911:—

CATASETUM CLIFTONII.—Mr. James O'Brien showed plants under this name from the collections of Sir Trevor Lawrence Bart., and Sir Jeremiah Colman, Bart., respectively. The flowers presented several minor points of difference in coloration and in the form of the lip, but both had a large callus upon the latter. No essential difference was to be seen in habit. Mr. O'Brien considered them to be forms of one species, a view with which Dr. Rendle, to whom they were referred, concurred. Dr. Rendle regarded them as forms of the very variable Catasetum Bungerothii, a Venezuelan species figured in *Bot. Mag.*, tab. 6998.

MALFORMED CATTLEYA.—Mr. O'Brien also showed a malformed Cattleya labiata, upon which Dr. Rendle commented as follows: "The dorsal sepal has become broad and short, resembling more the lip and petals; the lateral petals have become shorter, resembling the lip in colour, but slightly smaller; they are enclosed by the lip and convolute with each other; the dorsal sepal, with lip and petals, formed a central rosette; the lateral petals are shorter than usual, but otherwise normal. The column is reduced, forming a pillar-like structure bearing an aborted anther."

July 18th, 1911: BOTANICAL CERTIFICATES.—Catasetum reflexum, a new species, from Peru, approaching Cycnoches in some of its characters, was sent from Glasnevin by Sir Fred. Moore. On the motion of Mr. O'Brien, seconded by Mr. Wilson, a Botanical Certificate was unanimously recommended to this plant. A new Dendrobium, from Java, was exhibited by Sir Trevor Lawrence, Bart. It had been described under the name of

D. Annae, J. J. Smith, and is nearly allied to D. mutabile, which was shown to compare with it, but about double the size. On the motion of Mr. O'Brien, seconded by Mr. Bennett-Poë, a Botanical Certificate was recommended.

August 1st, 1911: UNCOMMON ORCHIDS.—Mr. J. O'Brien drew attention to two uncommon Orchids shown by Sir Trevor Lawrence—Catasetum apertum, which he regarded as nearly related to C. splendens, several varieties of which had been described, and Eria mysorensis, bearing pretty, small flowers, with a curious and rather unpleasant scent.

ORCHID PORTRAITS.

CATTLEYA MOSSIÆ.—*Journ. Hort.*, 1911, ii. p. 99, with fig.

CATTLEYA MOSSIÆ ALBA.—*Journ. Hort.*, 1911, ii. p. 195, with fig.

CATTLEYA MOSSIÆ ALBA VAR. QUEEN MARY.—*Journ. Hort.*, 1911, ii. p. 147, with fig.

CATTLEYA RHODA ILLUMINATA.—*Gard. Mag.*, 1911, pp. 603, 614, with fig.

CYPRIPEDIUM SPECIOSUM, Rolfe.—*Bot. Mag.*, t. 8386.

DENDROBIUM AGGREGATUM.—*Gard. Chron.*, 1911, ii. p. 82, fig. 38.

DENDROBIUM VICTORIA-REGINA.—*Garden*, 1911, p. 370, with fig.

DISA GRANDIFLORA.—*Gard. Mag.*, 1911, p. 608, with fig.

ODONTIODA CORONATION.—*Journ. Hort.*, 1911, ii. p. 123, with fig.

ORCHIS ITALICA.—*Gard. Chron.*, 1911, ii. p. 153, fig. 73.

SOBRALIA VEITCHII.—*Journ. Hort.*, ii. p. 171, with fig.

TRICHOPILIA LEHMANNII.—*Gard. Mag.*, 1911, p. 623, with fig.

ANSWERS TO CORRESPONDENTS.

[Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work].*

E.W.—We do not think it desirable to give distinctive names to all these innumerable secondary hybrids, and would reserve the honour for the more distinct and beautiful forms. Selection will have to play a more prominent part in the future, but it is scarcely possible to decide their value from the first weak flowering.

J.W.—Catasetum macrocarpum, Rich. The original species of the genus, and rather widely diffused in tropical America.

J.D.—We have not seen Masdevallia rosea alive for years, and fear that it may have been lost.

A correspondent is anxious to obtain the address of the firm that formerly made "drip-proof" appliances for fixing on the bars of an Orchid house. We should be obliged if anyone can send us the information.

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An Illustrated Monthly Journal.

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THE ORCHID REVIEW.

VOL. XIX.] *OCTOBER*, 1911. [No. 226.

THE EVOLUTION OF THE ORCHIDACEÆ.

(Continued from page 69.)

THE subtribe Oncidieæ is placed next to Maxillarieæ by Bentham, and now claims our attention. The group is entirely American, ranging from Mexico to Peru and Bolivia, and contains over forty genera and 750 known species. It is a very important horticultural group, and contains a large number of our popular garden Orchids, while representatives of most of the genera are occasionally met with in collections. The majority have a marked habit, by which they are easily recognised when not in flower. Oncidium and Odontoglossum may be regarded as typical of the group, but there are other genera which show a wide diversity in habit. The rhizome is usually short, but sometimes more or less elongated or creeping, and bearing short stems, generally terminating in a pseudobulb, crowned by one or two apical leaves, with a few distichous leaves or leaf-sheaths below the pseudobulbs. The latter are very various in shape, and sometimes they are almost sessile on the rhizome, and the scapes arise from the rhizome close to their base, while in a few genera the terminal pseudobulb is wanting, or only very tardily thickened out, and the leaves are either distichously imbricate on the short stem or form with the peduncles an apparently radical cluster. The leaves are coriaceous or fleshy, rarely membranous, and neither plicate nor prominently many-ribbed. The inflorescence is usually racemose or paniculate, and the flowers very various in structure, but the column is not produced into a foot, so that there is no real mentum to the perianth, though in a few genera the lip or the lateral sepals, or both, are produced at their base into a short spur. The pollinarium is usually well developed, with a distinct stipes, while there is a great diversity in the shape and details of the perianth, and in the staminodial appendages which form the crests of the lip and the teeth and wings of the column.

Bentham subdivided the Oncidieæ into five subordinate groups, very unequal in size, but agreeing fairly well with the characters of the plants, and these we may now consider, arranging the genera, however, somewhat in the order of their progressive development.

As constituting what may be termed Oncidieæ proper, we find a group

of some nineteen genera in which the lip is free from the column, and spurless, while the stems are mostly pseudobulbous, and terminated by one or two leaves. Oncidium is a very large and polymorphic genus of over 250 species, differing greatly in habit, and the majority of the species bearing yellow and brown flowers, a few however being white, often more or less blotched with purple. The sepals and petals are often relatively small; the lip and column usually diverging from the base, while the lip is large, membranous, and often pandurate in shape, with a rather tubercled crest. In the Cyrtochilum group, however, the lip is small and fleshy. The genus has almost the wide distribution of the subtribe.

Odontoglossum extends from South Mexico along the Andes as far as South Peru and Bolivia, and contains over 80 species. It is nearly allied to Oncidium, and difficult to distinguish by absolute characters, though the stalk or base of the lip is usually nearly parallel with the column, and the limb spreads at a distinct angle, and is rarely pandurately-trilobed, and the crest different. The lip varies greatly in detail, and in the section Myanthium it is small and fleshy, as in the Cyrtochilum section of Oncidium.

Miltonia is nearly allied to Odontoglossum, and includes a few species formerly placed with the latter. It was originally based upon a small group of Brazilian species, but was afterwards extended to include the Colombian Odontoglossum vexillarium and its allies, and more recently the Central American O. Schrœderianum, and a few others have also been transferred to it. It now contains about 20 species, most of which are in cultivation. The lip is usually sessile at the base of the column, entire, and seldom distinctly lobed.

Brassia differs from Oncidium in having narrow acuminate or tailed sepals and petals, and has a pretty similar distribution to that genus. About thirty species are now known. Ada is nearly allied to Brassia, and contains two Colombian species with orange-coloured flowers. Erycina contains a single Mexican species which was formerly referred to Oncidium, and much resembles it in general character. Leiochilus is Mexican and Central American, and contains about eight dwarf species, two or three of which are known in gardens. Gomeza is a small Brazilian genus of about ten species, several of which are in cultivation.

There are several other small genera, which are occasionally seen in cultivation. Abola and Solenidium are Colombian, Sutrina Peruvian, Rusbyella Bolivian, Cohnia from Nicaragua, Sonderella, Theodorea, and Dipteranthus Brazilian, while Trizeuxis is from Colombia and the West Indies, all being monotypic. Mesospinidium (not to be confounded with Cochlioda) has three species, natives of Colombia and Brazil, while the four species of Neodryas occur in Peru and Bolivia.

Another of Bentham's minor groups is characterised by having a free lip without any spur, and the stems short, leafy and without pseudobulbs. To it are referred Ionopsis, with about ten published species, Ornithocephalus, with 25, both widely distributed in Tropical America, Cryptarrhena, with two, Quekettia, two Guiana species, and the following Brazilian genera, *Zygostates*, with four species, Chytroglossa, with three, Phymatidium, with two, and Platyrhiza, with but one. They are rare in cultivation. The anomalous Ecuadorean genus Hoffmeisterella was also referred here by Bentham. It consists of a single species, and Reichenbach described it as having no near affinities, though he thought it most allied to Trichoceros, a high Andine genus of six or seven species, which Bentham placed in the subtribe Notylieæ, the latter an anomalous group whose disconnected elements are better placed elsewhere. Trichoceros has much of the general character of the preceding group, the stipes of the pollinarium being long and slender, while the side lobes of the lip are ciliate or antenna-like, and the margin of the anther setose or hispid. Telipogon is an allied high Andine genus of over fifty species, which is unknown in cultivation, owing to the difficulty of getting the plants home alive. The flowers are handsome, and the petals and lip broad, spreading, and reticulated with purple on a yellow ground.

A third group is characterised by having the lip more or less united to the base of the column, and to this are referred the following five genera. Cochlioda bears a general resemblance to Odontoglossum, under which one of its five species was formerly included, but it differs in the stalk of the lip being adnate to the column, in having two lateral stigmas—a character overlooked until the genus was taken in hand by the hybridist—and in its rose-coloured or orange-scarlet flowers. The species are natives of Peru and Ecuador. Binotia is Brazilian, and contains a single species, bearing a panicle of pale greenish flowers, with the stalk of the lip adnate to the column, but the stigma single, and in front of the column. Aspasia is a genus of about eight species, which was considered a section of Odontoglossum by Reichenbach, but is quite distinct, the stalk of the lip, and sometimes the base of the petals, being adnate to the column, while the habit is also appreciably different. Trichopilia has about 25 species, and ranges from Mexico along the Andes to Peru. It has few-flowered scapes, and the base of the lip is more or less convolute round the column beyond its adnate stalk. It contains several very handsome garden plants. Dignanthe contains a single Mexican species, still very imperfectly known. Papperitzia is another Mexican monotype, with a short sac at the base of the lateral sepals.

The fourth small group is characterised by having the perianth segments more or less united at the base into an ovoid or globose tube. There are

two genera, Brachtia, containing three Colombian species, with erect racemes, and the habit not unlike Odontoglossum, and Saundersia, a single Brazilian species, with a short radical inflorescence, an elongated lip, and an inflated spur, which is adnate to the ovary. The latter genus is occasionally seen in cultivation.

The last group consists of nine genera, in which the perianth is variously spurred at the base. In Trichocentrum the lip is united to the column, and is extended at the base into a more or less elongated or narrowly conical spur. The pseudobulbs are small, usually with a single fleshy leaf, and the flowers are borne in short, single or few-flowered scapes. It is widely diffused in Tropical America, and about 25 species are known, several of which are in cultivation. Jansenia is a Brazilian monotype having equitant leaves, and the flowers very similar in structure.

Rodriguezia has an equally wide diffusion, and contains about forty species. The lip is shortly spurred or saccate at the base, and the lateral sepals often partially united and concave at the base, enclosing the short spur. The pseudobulbs are small, bearing one or two leaves, and the flowers are borne in short axillary spikes. Several of the species are well known in gardens, though rather difficult to keep for long together. Capanemia is an allied Brazilian genus of about four species, having terete leaves, and short racemes of white flowers.

In Scelochilus the spur of the lip is short or more or less dilated, and enclosed in the saccate base of the lateral sepals. The pseudobulbs are narrow and one-leaved, and the flowers are borne in short axillary scapes. About eight species are known, natives of the Andes of Colombia and Peru, one or two of which are occasionally seen in gardens.

Comparettia is a remarkable genus, ranging from Central America to Peru, and containing about five species. The lateral sepals are extended into a long spur behind, and the lip also bears a pair of slender spur-like horns, which are enclosed within the spur of the lateral sepals. The pseudobulbs are one-leaved, and the flowers are borne in long pendulous racemes. The species are occasionally met with in cultivation. Diadenium is an allied genus, containing two Brazilian and Peruvian species, having much smaller flowers of pretty similar structure, but borne in an erect panicle. Centroglossa is a small Brazilian genus, also having a spurred lip.

Cryptocentrum is a remarkable Ecuadorean monotype, in which the base of the lip is extended into a long slender spur, which is closely appressed to the ovary and enclosed with it in the sheathing bract. The sepals are united into a tube. The leaves are narrow, and the scapes slender, numerous, and single-flowered. It is not known in cultivation.

R. A. ROLFE.

(*To be continued*).

THE GENUS TELIPOGON.

As the genus Telipogon, mentioned in the preceding article, is practically unknown to Orchid growers, we think that the following note from the pen of the late Prof. Reichenbach (*Gard. Chron.*, 1877, i. p. 172), will be read with interest :—

The Telipogons form a wonderful æthereal genus. They have narrow thin stems, with distichous leaves, now crowded together, now distant. The generally ancipitous racemes bear very conspicuous bracts with dorsal keels; and the flowers are usually very striking. The narrow triangular sepals are totally hidden by the thin, very broad, grand petals, and the lip. Originally two species were discovered by Humboldt and Bonpland; by-and-bye, after a long interval, a few more came. Lately, however, it became necessary to publish no less than twenty-seven species at once. My collection at the present time contains more than half a hundred species, many of them due to Messrs. Wallis, Roezl, Klaboch, Krause, Bruchmüller, and Patin.

These beautiful butterfly like things—provided we had such creatures with three wings!—have yellow flowers and a short column, now full of violet hairs, now with a fabulous crown of striking forked hairs, now with white senile hairs, seldom quite naked. The variation of the petals and lip, too, is very great; a considerable number have those organs equal, others unequal; some are as thin as the thinnest tracing paper, others have a stronger texture; some have few, others numerous nerves, and these are quite simple or connected by transverse bars. There are some with many projecting small dots on the side of the nerves.

At present the writer of these lines only knows of a single case of a Telipogon having flowered in Europe. It was in 1847, when Messrs. Veitch flowered Telipogon obovatum, Lindl. The late A. Bruchmüller, who discovered several new species on the old hunting-grounds of collectors at Ocana (Crœsus, hastatus, auritus, Alberti, Bruchmuelleri), made it a point to try to bring the Telipogons alive. Sitting on mule-back, he had his small cases with his pets before him, but they died when he came to the hot regions. . . . It would be a great success to secure the Telipogons in Europe, since they afford some new types. Their cousins, the Trichoceras, are rather pretty, and much easier to introduce for their plump bulbous growth, but their flowers are too small, while the majority of Telipogons have much larger flowers. There is no doubt that they would prefer a very cool treatment.

It is certainly unfortunate that in these days of quick transit such a remarkable genus cannot be introduced alive.

OUR NOTE BOOK.

ONE of the principal events of the present month has been the appearance of the magnificent Sophrocatlælia Jeanette, raised by Messrs. Charlesworth & Co., Haywards Heath, from Læliocattleya Martinetii and Sophronitis grandiflora, which received a First-class Certificate from the R.H.S. on September 12th. Its general character is well shown in the portrait that appears on page 305, though it is impossible to do justice to such a brilliant vermilion-scarlet flower in black and white. It is most like a greatly enlarged edition of the Sophronitis, but considerably modified in detail by the other parent. Læliocattleya Martinetii was derived from Lælia tenebrosa and Cattleya Mossiæ, and there is a particularly glowing orange shade on some of its forms which has come out well in the hybrid now under mention, making the colour rather difficult to describe. The lip of the novelty is dark ruby-crimson, with much yellow veining in the throat. It will be very interesting to see what other seedlings of the same cross are like.

At the following meeting another magnificent hybrid appeared from Messrs. Charlesworth, under the name of Odontoglossum Harwoodii, The Shrubbery variety, this also gaining a First-class Certificate. O. Harwoodii is a hybrid between O. maculatum and O. Wiganianum, and, curiously enough, the original flowered as recently as January last, and also received a First-class Certificate from the R.H.S. A portrait of it was given at page 81 of our March issue. The new variety is markedly different, having the blotches on the sepals more confluent into a large basal cluster, and the petals broader, while the lip is exceptionally developed, and bears two large solid basal blotches in addition to the broad central line. The flowers are large and the parts well displayed, while the colour is almost buttercup yellow with blackish brown markings, forming a striking contrast. The production of such striking novelties affords a very good illustration of the possibilities of hybridisation. They may be taken as examples of the magnificent surprises to which M. Karthaus alluded at page 195, when he expressed the opinion that we are at the beginning of a most interesting and instructive development, an opinion in which we fully concur.

The last mentioned hybrid probably came as a little surprise, for Odontoglossum maculatum has not been much used by hybridists, but the success of the experiment should stimulate further efforts in this direction, and there are several fine yellow and brown Colombian Odontoglossums which should unite well with it. The habit of O. maculatum is dwarf, and the flowers are very distinct in shape, and have good lasting qualities. Some interesting breaks might be expected, and the colours are not

sufficiently diverse to spoil each other, as is sometimes the case. One cannot be quite so sure about the result of crossing O. maculatum with the white and purple forms, but O. maculatissimum, raised by M. Ch. Vuylsteke from O. maculatum and O. armainvillierense (ardentissimum), is certainly handsome, so that there is plenty of room for further experiments.

One of the most important matters in hybridising is the selection of parents whose colours harmonise or blend well, and indiscriminate crossing in this respect has probably been one of the chief causes of disappointment in the past. Vigour and floriferousness—and hybrids are seldom wanting in both—are of little value if the important element of colour is lacking.

PHAIOCYMBIDIUM CHARDWARENSE.

NINE years ago a very curious hybrid was exhibited at a meeting of the R.H.S., under the name of Phaiocymbidium chardwarense. It was raised in the collection of G. F. Moore, Esq., Chardwar, Bourton on the Water, and was originally recorded as "supposed to have been derived from Phaius grandifolius and Cymbidium giganteum. The flowers resembled Phaius Ashworthianus, being yellow, faintly striped with purple-red" (*O.R.*, x. p. 117). The plant had entirely the structure of Phaius, without any trace of the Cymbidium, unless indeed the modified colour could be traced to its influence, and doubts were accordingly expressed about the recorded parentage. Shortly afterwards Mr. Morris, Mr. Moore's then gardener, wrote: "The seed from Phaius grandifolius × Cymbidium giganteum was sown on a large pot of the latter, and did not appear for twelve months, though after the plant was repotted the seedlings came up from very low down in the pot, and still continue to come. Some have been potted up every year, and there are still about a dozen on the pot. There is not the slightest trace of the Cymbidium in the habit of the seedling, or the spike, though the lines of C. giganteum are very apparent on the flower" (*l. c.*, p. 190).

In the following year it received a First-class Certificate from the R.H.S., and Mr. W. Page, who had succeeded Mr. Morris as gardener, then sent a couple of flowers, with the following note: "The enclosed is a supposed hybrid between Phaius Wallichii × Cymbidium giganteum. It has been shown at a R.H.S. meeting, and there was some doubt as to its parentage by those who saw it there, but according to the records of our seedlings it must be correct, because it is the only Phaius cross recorded, and Mr. Moore had no other Phaius in his collection until recently. The plant, so far as I can see, is identical with P. Wallichii; there is nothing in the growth of the plant to suggest Cymbidium, but the flower certainly looks to me as if it had Cymbidium blood in it. We have about two dozen seedlings,

three of which are in flower, and are the same as the samples sent" (*O. R.*, xi. p. 325). We could only suggest that it might be another case of Monolepsis, or false hybridism. There was evidently some mystery, and it was suggested that an attempt should be made to raise the reverse cross.

From the first I had a suspicion that Phaius maculatus ought to have been the second parent, if character stood for anything, but I had not been able to see its two recorded hybrids, P. maculato-grandifolius and P. Ashworthianus, and it seemed impossible to explain away the records of the Phaiocymbidium, though I had suggested that pollen, or a flower of P. maculatus might have been obtained from some outside source. I afterwards crossed and recrossed Phaius and Cymbidium, but without getting a capsule, and Mr. Gott tells me that he has repeatedly done the same at St. Albans, with no better result. I am now convinced that some inexplicable mistake has been made in the record. At the R.H.S. meeting held on September 12th last a plant of Phaius Ashworthianus (P. Wallichianus × maculatus) was exhibited from the collection of S. Larkin, Esq., Haslemere, in which I instantly recognised the characters of the Phaiocymbidium. The plant was obtained from the Clifton collection. The sepals were deep golden yellow, and the lip very undulate and veined with reddish purple, just as in some forms of the Phaiocymbidium, which I believe must now rank as a synonym of Phaius Ashworthianus.

R. A. R.

ORCHIDS AT KEW.

SEVERAL interesting Orchids are flowering in the rich Kew collection, among a large number of the more familiar species. Angræcum Rothschildianum is remarkable for its large sac-shaped lip, quite unlike that of any other known in cultivation. Near by is a good plant of A. Eichlerianum, a large-flowered species, with very broad lip, and Bulbophyllum Ericssonii bearing a fine umbel of its green and brown spotted flowers, with plants of Phalænopsis rosea, P. Esmeralda, the rare Saccolabium acutifolium, and S. penangianum. Dipodium pictum is a handsome thing which is not often met with, and bears racemes of white flowers spotted with rose. Govenia lagenophora, now in bloom, is rarely seen in cultivation, and its large tubular leaf-sheaths form curious receptacles for water. Cycnoches maculatum is bearing a long scape of its prettily spotted flowers, and near by is Catasetum Russellianum, also with a spike of male flowers, the females being still unknown. A fine plant of Miltonia Cogniauxiæ var. bicolor is bearing several spikes of flowers, while Epidendrum Cooperianum, E. glaucum, and the rare Oncidium Ballii are also in bloom. Lastly may be mentioned a plant of Bollea Lalindei, whose curious violet-blue flowers are always attractive.

VANDA JOAQUIMIÆ.

THE annexed figure represents a very handsome hybrid which was originally described in 1893 as Vanda Miss Joaquim, by Mr. H. N. Ridley (*Gard. Chron.*, 1893, i. p. 740), its history being given as follows:—"A few years

Fig. 32. VANDA JOAQUIMIÆ.

ago Miss Joaquim, a lady residing in Singapore, well known for her success as a horticulturist, succeeded in crossing Vanda Hookeriana and V. teres, two plants cultivated in almost every garden in Singapore. Unfortunately no record was kept as to which was the seed parent." It was said to have

the general habit of V. teres, with the form of flower of V. Hookeriana, and the colour of the V. teres parent. It is described as a very lovely plant and a great improvement on both parents. The plant was said to be then in the Botanic Garden, Singapore, where it was being propagated from cuttings. Some of these were afterwards sent to England, and in June, 1897, it flowered for the first time in Europe in the collection of Sir Trevor Lawrence, Bart., at Burford, and received a First-class Certificate from the R.H.S. The plant was between seven and eight feet high, and when exhibited bore a spike of three expanded blooms and nine buds. It is a far more robust grower than V. Hookeriana, from which its tall habit is chiefly derived, and it also resembles this parent in the broadly dilated front lobe of the lip, though the colour is much more like V. teres. The name was modified into its present form, Vanda Joaquimiæ, in accordance with the rule for naming primary hybrids (*Orchid Stud-Book*, p. 236). It is a great beauty, and it is believed that all the plants in cultivation have been propagated from the original one, this being one of the comparatively few hybrid Orchids which lend themselves to propagation by this means. It succeeds well under the same treatment as V. teres, namely a light position in the Warm house, with practically nothing in the way of shading. These terete-leaved Orchids seem to grow naturally in open situations, and are not affected by bright sunlight like the shade-loving species.

MAXILLARIA NASUTA.

THIS rare Maxillaria has just flowered among the Colombian importations of Mr. J. Birchenall, Alderley Edge, Cheshire, a flower sent to Kew for determination proving identical with that originally described by Reichenbach (*Beitr. Orch. Centr. Amer.*, p. 104). It is said to have been originally discovered by Schlim, at Lasita, in New Grenada, but afterwards it was collected in Costa Rica by Tucker, when collecting for Messrs. Hugh Low & Co. It was also met with in Costa Rica by Endres, who sent plants to Messrs. James Veitch & Sons, one of which flowered in the collection of the late W. Wilson Saunders, and was figured in his *Refugium Botanicum* (ii. t. 103), under the name of M. nasalis, which is only a mistake for M. nasuta. Reichenbach described it as a most peculiar species, only comparable with his M. proboscidea, a Venezuelan species collected at 5,000 feet elevation in Caracas, by Wagener, and which still appears to be only known from description. The scapes are about six inches high, clothed with imbricate sheaths, and the flowers are over an inch long, with very acute greenish yellow sepals and petals, and a shining red-purple lip, margined with yellow, and very strongly recurved at the apex. The leaves are broad and about twice as long as the scapes.

R.A.R.

CALENDAR OF OPERATIONS FOR OCTOBER.

By J. T. Barker, The West Hill, Hessle, E. Yorks.

As the weather returns to more normal conditions, so must we return to the normal treatment of our plants. We must now look for cold nights, and a general fall in the outside temperature, and cultivators should be prepared for them. On such occasions the temperatures of the houses are sure to fall a few degrees below what is considered the proper standard, but no harm will occur provided no watering or damping down is attempted until the proper degree of heat is attained in the various houses. After the abnormal weather we have had it will be much better to err a trifle on the warm side at least for a few weeks, as a very sudden and drastic fall in the temperatures might do a considerable amount of harm.

Temperatures.—During this and next month the night temperatures should read as follows:—

East Indian house, 65° to 70°.

Cattleya and Mexican house, 60° to 65°.

Intermediate house, 58° to 62°.

Odontoglossum house, 55° to 60°.

In the event of extremely cold weather, a degree or two lower will do no harm, if not allowed to remain there too long.

Shading.—All permanent shading may now be removed, but should the sun shine at all brightly I would advise, where lath roller blinds are used, that they should be run down during the hottest part of the day, but under no consideration should they be allowed down longer than is necessary.

Atmospheric Moisture.—Damping down must now be done with discretion, as if carried to excess the moisture condenses on the glass, and in many cases causes drip, in spite of drip-proof bars and other methods to prevent it. This often causes the loss of a young growth, if not the death of a plant.

Ventilation.—Admit air on all favourable occasions, as all plants delight in a supply of pure fresh air, but avoid draughts, as with them come chills and injury to the plants.

Watering.—The remarks made last month respecting this matter will still hold good, in fact right through the winter months. Always consider whether it is advisable to water the plant or not. Many Orchids, in my opinion, are lost through getting too much water during the winter months, and not enough when in full growth.

Dendrobiums.—Continue to remove those that have finished their growth to the resting house, taking care that they get only sufficient water to prevent them from shrivelling.

Cattleyas, Lælias, and Læliocattleyas may still be repotted,

provided they are pushing new roots. They should be kept on the dry side until the new roots are seen to be getting through the new compost. This I consider to be one of the best seasons of the year to repot Cattleya Warscewiczii, or gigas, keeping it on the dry side until it commences to grow in February, and placing it well up to the light, at the warmest end of the Cattleya house. Some plants of this species are undoubtedly more shy flowering than others, and in no case will small plants flower as freely as C. Mendelii or C. labiata. If the conditions laid down be carefully carried out, I think the most obstinate plants will flower in due time. I may say the plants must not be allowed to shrivel or lose their leaves for the want of water during the winter months, as they lose their roots at the same time. I make these remarks in answer to a note and our Editor's remarks thereon at page 271.

ODONTOGLOSSUMS.—The repotting of this family should be completed as soon as possible, and any that are not in a fit condition now will be best left over until the early spring. Any plants that are pushing up spikes should be elevated so that they obtain all the light possible, and any weak or sickly plants attempting to flower should have the spikes removed at once. The sole aim of the cultivator should be to nurse his plants until they attain the strength and vigour to carry a spike of ten to fifteen or more flowers. This cannot be expected from weak plants.

CALANTHES of the vestita section that are now pushing up their spikes will also commence to cast their foliage, and must be watered with moderation until the blooming period, and must have all the light possible, which will enable them to expand and develop their flowers. They should still be kept in the same house and temperature as they have made their growth in. C. Regnieri, C. Turneri, and others are later in losing their foliage, therefore the treatment must be varied accordingly.

CYMBIDIUMS.—C. Tracyanum, Hookerianum, and giganteum are now fast finishing their growths, and some of them are already pushing up their flower spikes, and will be all the better for an occasional watering with weak liquid manure-water, but in no case must it be administered in strong doses, rather withhold it altogether than run the risk of doing them harm.

SOBRALIAS may be repotted at this season, and as they are all strong growers, they require plenty of pot room. The compost I recommend for them is equal portions of fibrous loam, osmunda, peat, and sphagnum moss, all thoroughly mixed together, and used in a fairly rough state, potting rather firmly, and leaving a space of half an inch or so below the rim of the pot for watering. For some time after repotting the soil must be kept on the dry side, and no water should be given until the compost becomes dry. They succeed best at one end of the Intermediate house, where they can be accommodated with plenty of head room.

Oncidiums.—In the Cool house such Oncidiums as Forbesii, crispum, and varicosum will be developing their flower spikes, and strong, well-rooted plants may be allowed to bloom, but small, delicate, weakly plants should have the spikes removed. These plants produce an abundance of flowers from newly-imported plants, and soon exhaust themselves if allowed to retain these spikes for any length of time; therefore if it is desired to keep the plants from year to year, these spikes should be removed as soon as they are fully developed. O. concolor and any others that have completed their growths or pseudobulbs will not require nearly so much water as they did when in full growth, but they must not be allowed to suffer—that is, to shrivel—for want of it.

Disas.—Where the lovely Disa grandiflora is grown the plants are best repotted at this season, just as the new growths push up from the sides of the old flower spikes. The pots should be well drained, using a compost of equal portions of fibrous peat and sphagnum moss, with a fair sprinkling of half-decayed leaves and coarse silver sand, or better still, powdered sandstone, all mixed well together. After repotting give just sufficient water to settle the compost, and then for some time spraying once or twice a day, or more, according to the weather, will suffice to keep them moist. They require a cool, moist position, in a freely ventilated house, where frost can be kept from them. Green fly and thrip are their greatest enemies, and must be kept at bay.

Miltonia Roezlii and its variety alba will be commencing to grow, and may be repotted, should they require it, using the compost as recommended for M. vexillaria, and placing the plants well up to the light at the warm end of the Intermediate house. They delight in a fairly moist position, and water should only be applied at this season when the compost becomes dry.

Vanda Kimballiana, now developing their flower spikes, should be kept moist, and in a growing condition until their flowers are open, and afterwards only sufficient water should be given to keep their terete leaves firm and plump.

Lycaste Skinneri.—Any backward plants of this species should be encouraged by placing them in a warmer position than that which they have occupied to enable them to complete their growths. They should have water whenever they require it until the bulbs are matured, and should be kept in a temperature of not less than 55° at night.

Mormodes, Cycnoches and Catasetums that have finished their growths, and flowered, may be placed with the Dendrobiums in the resting house, and should only have enough water to keep them from shrivelling.

Anguloas that have perhaps been grown in the Cool house during the summer months, must now be taken back to the Intermediate house, and

if they have completed their growth may be kept on the dry side, until they start again in the spring.

RESTING ORCHIDS.—Speaking of resting Orchids, I am not a believer in the drastic method of drying the majority of them that one often sees practised. I am quite aware that in some cases it is essential, but in others is often carried too far. One can strike a fairly safe average by studying the behavior of the different groups.

GENERAL REMARKS.—We must now push on with the cleansing of the houses and their inmates, making them comfortable for the winter which is before them, and giving them each according to their several requirements the best positions possible, as all the difference between success and failure depends on these small items. Let all the cleansing operations be thorough, as all insect and other pests that are eradicated at this season of the year would become whole families at a later period.

And to the successful man in Orchid growing, as in everything else, there is no resting period, he must be constantly looking forward, and always at work, either mentally or manually.

THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON.

COOL HOUSE.

FIRE heat will now be required again, as it is far better to have a little heat in the pipes than to close the house early to maintain the correct temperature. Practically all shading can be dispensed with, exception being made of any plants which are in flower, or any which have been freshly potted. Water carefully at this season, and if you are uncertain whether a plant needs water, it will be better to leave it until the following day. Damp the house whenever it gets dry, which period of time differs in every house, according to its position, locality and structural peculiarities. The average night temperature should be about 55° Fahr., with an increase of from 5 to 10 degrees by day.

CATTLEYA HOUSE.

The remarks on culture in the Cool house are equally applicable to this structure. Cattleya labiata should now be making a good display of blooms, and should be kept well supplied with water until the flowers fade. The same rule applies to any species of Orchids now in flower. The lowest night temperature should be 60°, and the thermometer should rise 10 degrees during the day. Dendrobium Wardianum is rapidly finishing its growths, and should have the supply of water considerably reduced. Vanda cœrulea should now be in spike. Any plants in this condition should be stood up well to the light, kept damp, and a nice genial and airy atmosphere be maintained. Cymbidiums Tracyanum, giganteum, and some of the

hybrids should be likewise in spike, and must be given abundance of air and water to enable them to develop satisfactorily.

SUGGESTED ADDITIONS.

COOL HOUSE.

EPIDENDRUM VITELLINUM.—This most brilliantly-coloured Orchid is an indispensable member of a Cool house, and by reason of its free growing and flowering propensities, enjoys great popularity. There are two varieties, *i.e.*, the summer, and autumn flowering types. Epidendrum vitellinum is a low-growing Orchid, producing small circular-shaped pseudobulbs, from the apex of which the spikes of blooms are produced in late summer. The individual blossoms are about an inch in diameter, and of the brightest hue of orange-scarlet exhibited in any flower. They continue a long time in full beauty, and withstand draughty show rooms and rooms lit by gas with surprising fortitude. Beginners should be careful to make sure that they obtain the "majus" variety, which is much superior to the ordinary form.

CATTLEYA HOUSE.

LÆLIOCATTLEYA HYPATIA.—This is one of the best of the Lælia cinnabarina crosses, and is worthy of a place in the most select of collections. This Orchid is endowed with a good constitution and flowers freely, usually blooming this month or later. It was derived from Cattleya Trianæ and Lælia cinnabarina. As is the case with many hybrids derived from the latter species, many flowers are produced on a long stem from the sheath. The sepals and petals are of a deep flame colour, and the lip is veined with mauve, with a golden throat. Within the last few years many plants have been raised, which allows of its being purchased at a low rate.

MANURE FOR ORCHIDS.

IN answer to Mr. Geo. H. Hunt (page 191), I may state that I was at one time with the Julius Roehrs Co., at Rutherford, New Jersey, and I never remember the Warm Orchid houses being left open at night. It was only the Cool houses that were left open; the Phalænopsis, Cattleya and the warmer Cypripedium houses were closed at about five o'clock in the afternoon, but earlier on cool days. Mr. Hunt must also remember that most of the summer-flowering Cattleyas are making their roots after they have done flowering, and this is the best time for damping the house with manure water. I may say that I am not able to send photographs of the plants in question, but as I have gained a more extensive position with Mr. J. A. Carbone, of West Berkeley, California, through my success at Newport, Rhode Island, it would be interesting to know if Mr. Hunt has made any experiments with manure for Orchids, and if so, what were the results?

W. E. EGLINGTON.

2216, Fifth Street, West Berkeley, Cal., U.S.A.

REVIEW OF BOOK.

Orchids for Amateurs. A Practical Guide to the Cultivation of Sixty easily-grown Cool, and Fifty Warm House kinds adapted for Small Mixed Greenhouses. By C. Alwyn Harrison, F.R.H.S. Edited by T. W. Sanders, F.L.S., Editor of "Amateur Gardening." Illustrated. Crown 8vo., 148 pp. London: W. H. and L. Collingridge, 148 and 149, Aldersgate Street, E.C.

OUR readers have already made the acquaintance of Mr. C. Alwyn Harrison, through his articles in these pages on the Amateurs' Collection. He has now produced a small work bearing the above title, and its object is to awaken a wider interest in these most fascinating plants. There are many amateurs, he remarks, who possess a heated greenhouse, and who grow geraniums, ferns, azaleas, and palms to perfection, and in his opinion there are at least fifty Orchids which might be successfully grown in such structues if the attempt were made.

The work is divided into parts, the first devoted to Cool house Orchids, and the second to Orchids for a Warm house, with a third or Miscellaneous division, including Imported Orchids and their treatment, Propagation of Orchids, List of Plants to grow with Orchids, Insects and Diseases injurious to Orchids, and Odontiodas.

In the first part we find chapters devoted to Odontoglossums, Oncidiums, Masdevallias, Cypripediums, Cœlogyne cristata, and others suitable for a Cool house; also chapters on the Orchid House, Culture of Cool Orchids, Culture in frames, and potting Cool Orchids. Fifty species for the Cool house are dealt with in detail, while ten Odontiodas are added in a concluding chapter.

In the part devoted to Warm house Orchids a similar number are dealt with, and there are chapters devoted to Cattleyas, Dendrobiums, Lælias, Læliocattleyas and various others, also chapters on Potting and Composts, Watering and Syringing, and General hints. The Author is himself an enthusiastic amateur who has attained considerable success, and the book we believe contains sound practical information which will be specially useful to beginners. It is of convenient size, well-printed, and contains twenty illustrations of the most popular kinds. Lastly it is furnished with a good Index. The work may be commended to beginners and to the owners of small greenhouses who may be desirous of including a few Orchids in their collections, as a reliable cultural guide.

An interesting feature is the list of Cool greenhouse plants suitable for growing with Orchids, their habit, colour, and time of flowering, and a similar list for the Warm house, as such plants would take care of themselves under Orchid house conditions.

SOPHROCATLÆLIA JEANETTE.

AT the Royal Horticultural Society's meeting held on September 12th last this magnificent hybrid was exhibited by Messrs. Charlesworth & Co., Haywards Heath, and was unanimously awarded a First-class Certificate. Its parents are Sophronitis grandiflora and Læliocattleya Martinetii, and it will be seen how well the general character of the Sophronitis parent has been retained, while the flower is greatly enlarged in size. The influence of the Læliocattleya parent is apparent in the more ample lip, which may

Fig. 33. SOPHROCATLÆLIA JEANETTE.

be described as deep ruby-crimson in colour, with a deep yellow disc, on which occur some darker radiating veins. The sepals and petals are of a most brilliant vermilion-scarlet, with an orange glow which is not easy to describe. It is one of the most brilliant acquisitions that we have seen for a long time. The photograph here reproduced was kindly sent by the raisers. It may be interesting to recall here the illustrated article on "Sophronitis grandiflora as a parent" by Mr. J. M. Black, which appeared two years ago in our pages (xvii. pp. 321-325, 359-362), in which a complete

list of Sophrocattleyas, Sophrolælias, Sophrocatlælias, and Epiphronitis was given. That list contains sixteen Sophrocatlælias, but only three of them were derived from the Sophronitis direct, in the other thirteen either Sophrocattleya or Sophrolælia being one of the parents, the Sophronitis influence being thus reduced by one half. There is therefore plenty of room for further experiments. Mr. Black then remarked: "That there is a wide field and abundant scope to keep on improving by selecting existing hybrids for judicious crossing together is very evident, and it is along these lines that hybridists must now work, achieving no doubt in future years very wonderful and unlooked for results, and in Sophronitis grandiflora we have a factor which offers infinite possibilities to the Cattleya hybridist." The Cattleyas of the labiata group and their hybrids seem to be the most difficult to work with, but it is these which have given the most brilliant results, and the one now figured is probably unrivalled in the series. Messrs. Charlesworth must be congratulated on their latest achievement.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING was held at the Royal Horticultural Hall, Vincent Square, Westminster, on September 12th last, when there was a good display of Orchids for the season, including six medal groups. A most remarkable novelty was shown by Messrs. Charlesworth & Co., in the shape of a magnificent Sophrocatlælia, to which a First-class Certificate was given, while a plant of Dendrobium glomeratum from Sir Trevor Lawrence received a Cultural Commendation.

Orchid Committee present: Harry J. Veitch, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., F. Sander, R. G. Thwaites, A. A. McBean, W. Cobb, J. Charlesworth, J. Cypher, W. H. Hatcher, C. H. Curtis, W. H. White, Gurney Wilson, W. Bolton, de Barri Crawshay, and H. G. Alexander.

S. Larkin, Esq., The Ridgways, Haslemere (gr. Mr. Hales), showed an interesting and varied group of Orchids, including a fine example of Phalænopsis violacea, the striking Phaius Ashworthianus (Wallichii × maculatus), having deep yellow flowers striped with red on the lip, the rare Dendrobium Maccarthiæ, Calanthe veratrifolia, Læliocattleya Nysa, Cattleya Maronii, C. Ella, C. Iris, and others, with a few Cypripediums, &c. (Silver Banksian Medal).

W. P. Burkinshaw, Esq., Hessle, E. Yorks (gr. Mr. J. T. Barker), sent Cypripedium Venus Hessle var., a very beautiful white form.

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park, Reigate (gr. Mr. J. Collier), sent a fine Bulbophyllum, which was submitted to the Scientific

Committee, and determined as B. orthoglossum, Kränzl. A note appears on page 316.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. H. Day), sent a good example of Cypripedium Lord Derby, and Læliocattleya Colmanii Goodson's var.

Lady Audley Neeld, Grittleton, Chippenham, exhibited Cypripedium Fascination (C. Fascinator × C. insigne Harefield Hall var.), a fine flower with very broad petals, and C. Dallas (C. Curtisii exquisitum × Fairrieanum).

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black), sent a richly-coloured Læliocattleya bletchleyensis, L.-c. Ophir, a beautiful Cattleya Dusseldorfii Undine, C. Pittiana, and several forms of C. Adula and C. Euphrasia.

Messrs. Sander & Sons, St. Albans, staged a very fine group of Cattleyas, Læliocattleyas, &c., with three fine specimens of Vanda Sanderiana in the centre, one of which bore three spikes of flowers. We noted a couple of well-flowered plants of Dendrobium Sanderæ, D. epidendropsis, the striking Maxillaria striata, Cycnoches Egertonianum with three racemes of male flowers, Gongora galeata, Phalænopsis Esmeralda, Miltonia spectabilis Moreliana, Cypripedium Parishii, C. Transvaal, C. Bella, Sophrolælia Alcides (L. Jongheana × S. grandiflora), a pretty deep rose flower, with a dark yellow lip margined with rose, Sophrocatlælia Danæ, Brassocattleya Calypso, Acineta chrysantha, Rodriguezia secunda, &c. Læliocattleyas formed an interesting series, and included fifteen plants of L.-c. Walter Gott, showing a wide range of variation, L.-c. Damon (L. crispa × L.-c. callistoglossa), Phœnix (L.-c. Greenwoodii × C. aurea), Colmanii, Britannia (L.-c. Canhamiana × C. Mossiæ), a very large and handsome form, exquisita (C. Shakespeare × L.-c. elsteadiana), a very pretty form, with pale greenish yellow sepals and petals, and the front lobe of the lip violet-purple, Sappho (C. bicolor × L.-c. callistoglossa), and Cambyses (L.-c. luminosa × C. Harrisoniana), with lilac flowers, while Cattleyas included C. Chamberlainiana, Davisii, Hardyana, fulvescens, Rothschildiana, Adula and versicolor (velutina × Mossiæ), forming a very fine series (Silver-gilt Flora Medal).

Messrs. Charlesworth & Co., Haywards Heath, staged a choice group, including a handsome Miltonia Bleuana nobilior, Cattleya Rhoda, a fine C. Gaskelliana alba, Brassolælia Veitchii, Odontoglossum Lambeauianum, a very fine Cycnoches maculatum, Stanhopea bucephalus, Læliocattleya Phryne, Brassocatlælia Thompsonii (B.-l. Veitchii × C. Gaskelliana), a very large and handsome hybrid, Cypripedium insigne Sanderæ, C. Maudiæ, a very handsome Sophrocatlælia (see Awards), &c. (Silver Flora Medal).

Messrs. Hassall & Co., Southgate, staged a pretty little group, including

the variable Cattleya iridescens, C. Adula, and a pretty hybrid from C. Harrisoniana × Iris, with Læliocattleya Walter Gott, L.-c. Dominiana, Miltonia Roezlii, and others (Silver Banksian Medal).

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent a small group of choice things, including Cattleya Thurgoodiana Vale Bridge var., C. Gaskelliana alba, C. Grossii, C. Ena var. E. V. Low, having yellow sepals and petals with bronzy veining and a purple lip, C. Iris, forms of C. Adula, Bulbophyllum grandiflorum, Cirrhopetalum appendiculatum, C. guttulatum, Cypripedium James H. Veitch, &c. (Silver Banksian Medal).

Messrs. Stuart Low & Co., Bush Hill Park, staged a pretty group, including good examples of Vanda cœrulea, Oncidium varicosum, O. incurvum, Miltonia Roezlii alba, the rare Sigmatostalix Eliæ, Dendrobium sanguinolentum and its unblotched form, D. Maccarthiæ, two plants of Cycnoches maculatum, Cattleyas Adula, Iris, Pittiana, Forbesii, Luedde-manniana, and Goossensiana, Cypripedium Eleanor, C. Juno, Houlletia Brocklehurstiana, Sarcanthus filiformis, Epidendrum ciliare, &c. (Silver Banksian Medal).

Messrs. James Veitch & Sons, Chelsea, sent Cattleya Carmen (Luedde-manniana × Warscewiczii), a fine light rose flower, with the front of the lip rose-purple, and two yellow blotches in the throat.

FIRST-CLASS CERTIFICATE.

SOPHROCATLÆLIA JEANETTE (L.-c. Martinetii × S. grandiflora).—A large and remarkably brilliant hybrid, the flower measuring over four inches across, with very broad petals, and the lip large and well-shaped, the general colour being bright vermilion-scarlet, with darker veining, and the lip veined with ruby-crimson all round the deep yellow disc. Exhibited by Messrs. Charlesworth & Co.

CULTURAL COMMENDATION.

DENDROBIUM GLOMERATUM.—To Mr. W. H. White, gr. to Sir Trevor Lawrence, Bart., Burford, Dorking, for a very well-grown specimen, bearing over thirty deep rose-coloured flowers, with an orange-coloured lip.

At the meeting held on September 26th there was a fine display of Orchids, including five medal groups, other awards consisting of two Awards of Merit, two Cultural Commendations, and one First-class Certificate, the latter being given to an exceptionally fine form of Odonto-glossum Harwoodii shown by Messrs. Charlesworth.

Orchid Committee present: Harry J. Veitch, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), C. H. Curtis, R. G. Thwaites, T. Armstrong, A. A. McBean, Walter Cobb, J. Charlesworth, J. Cypher, J. E. Shill, W. P. Bound, W. H. Hatcher, Arthur Dye, Gurney Wilson, W. Bolton, J. S. Moss, and W. H. White.

The President, Sir Trevor Lawrence, Bart., K.C.V.O. (gr. Mr. W. H. White), sent a fine plant of Epidendrum floribundum, with a large panicle bearing ten branches, Læliocattleya Phœbus (L.-c. Phœbe × C. Warscewiczii), a pretty hybrid having buff-coloured sepals and petals, and the lip veined with rose, Cattleya Ashtoniana, and two others which are given under Certificated Orchids.

Leopold de Rothschild, Esq., Gunnersbury House, Acton (gr. Mr. J. Hudson), showed a charming little group of finely-grown Habenaria militaris, consisting of about two dozen plants, arranged in a circular group with maiden-hair ferns and Caladium argyrites; also Cattleya Dowiana aurea, and a fine C. Iris with nine flowers. (See Cultural Commendations.)

S. Larkin, Esq., The Ridgways, Haslemere (gr. Mr. Hales), staged a pretty little group, including two plants of Phalænopsis violacea, several good Dendrobium Phalænopsis, Calanthe veratrifolia, Brassia longissima, Oncidium Forbesii, Cattleya lythamensis (Grossii × Gaskelliana), with pretty rosy mauve sepals and petals, and a purple lip with very minute side lobes, several plants of C. Iris, C. Adula, C. Maronii, and others, with a few Cypripediums (Silver Banksian Medal).

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Cypripedium Dowleri Westfield var., a pretty little white form with a few minute purple dots, Cattleya Gaskelliana Delight, a good pale form, and another which is mentioned under Awards.

W. Waters Butler, Esq., Edgbaston, Birmingham (gr. Mr. R. H. Jones), sent a very fine Cattleya, derived from C. Dowiana aurea × Hardyana, having pale sepals and petals veined and marbled with rose, and a rich velvety crimson lip veined with yellow at the base. It recalled C. Hardyana var. Massaiana in general character.

H. F. Goodson, Esq., Fairlawn, Putney (gr. Mr. G. H. Day), staged an interesting little group, including a fine plant of Cattleya St. Gothard, Læliocattleya elegans Turneri, L.-c. bletchleyensis, Sophrolælia heatonensis and Gratrixiæ, Sophrocatlælia Nestor, and a few others.

Baron Bruno Schröder, The Dell, Englefield Green (gr. Mr. J. E. Shill), showed Odontoglossum memoria Baron J. H. Schröder, a remarkably fine hybrid of the eximium class, having large white flowers, much blotched with violet-purple. Only a few of the lower flowers were expanded, and the Committee desired to see it again.

R. G. Thwaites, Esq., Chessington, Streatham (gr. Mr. J. M. Black), showed the charming little Lælia pumila alba, and Cattleya Adula Thwaites' var., a very fine form bearing three richly-coloured flowers.

Messrs. Charlesworth & Co., Haywards Heath, staged a very choice group, including a very fine plant of Vanda Maroniæ with a spike of ten handsome flowers, a richly-coloured Cattleya Venus, showing most of the

C. Dowiana shape, and having some yellow veining on the lip, Læliocattleya Scylla, Dendrobium Dearei, a good Oncidium Lanceanum, O. Janssenii (tigrinum × Forbesii), showing well the characters of both parents, Cypripedium glaucophyllum × Fairrieanum, C. Daisy Barclay, two forms of C. Hitchinsiæ, C. Leeanum Corona, and a very handsome Odontoglossum which is mentioned under Awards.

Messrs. Hassall & Co., Southgate, staged a very pretty group, containing some good forms of Læliocattleya Walter Gott, Cattleyas Parthenia Prince of Wales, Mantinii nobilior, Fabia, Minucia, and iricolor, Zygopetalum rostratum, Rodriguezia fragrans, Miltonia spectabilis Moreliana, Cypripedium Kubele grandis, C. A. de Lairesse, and a few other good things (Silver Banksian Medal).

Messrs. Stuart Low & Co., Bush Hill Park, Enfield, staged a fine group, including some good forms of Cattleya Hardyana, Gaskelliana, Rhoda, Minucia, C. Grossii × Gaskelliana, and a fine bronzy hybrid with purple lip, called C. Iris var. Cæsar (Grossii × Dowiana aurea), Dendrobium Victoria-Regina and D. Dearei, and forms of D. Phalænopsis, Cycnoches maculatum and chlorochilon, Miltonia Regnellii, Odontoglossum grande, Trichopilia fragrans var. nobilis, with a row of Oncidium varicosum and oblongatum at the back (Silver Banksian Medal).

Messrs. Sander & Sons, St. Albans, staged a fine group, consisting largely of Cattleyas and Læliocattleyas, with the pretty little Sievkingia peruviana (Rolfe), Vanda Sanderiana, Miltonia spectabilis Moreliana, Catasetum maculatum, the remarkable Uropedium Lindenii bearing a spike of three flowers, Phalænopsis Sanderiana, and a white form called P. Sanderiana pulcherrima, said to have been imported with it, and showing points of resemblance to P. Aphrodite in the flower, plants of Cypripedium insigne Sanderæ, C. callosum × insigne Chantinii, and Odontioda grata (C. Nœtzliana × O. tripudians) with orange-buff flowers. Of the Cattleya group we noticed a fine C. Mantinii × Hardyana, most like the latter in character, C. Pittiana Colossa, C. Iris, C. Ella, C. Dowiana aurea, C. Thayeriana, C. bellatula (Iris × Gaskelliana), Læliocattleya Phœnix (C. Dowiana × L.-c. Greenwoodii), having a richly-coloured lip with yellow veining, L.-c. Astoriæ, L.-c. luminosa, a varied series of L.-c. Walter Gott, Brassocattleya Thorntonii and Veitchii, and a pretty Brassocatlælia, from B. Digbyana and L.-c. bella (Silver Banksian Medal).

Messrs. James Veitch & Sons, Chelsea, included a few good Orchids in their fine Gold Medal group of Stove and Greenhouse Plants, prominent among them being forms of Læliocattleya Haroldiana, Gertrude, Violetta, bletchleyensis, elegans, and amanda, Cattleya Carmen (Lueddemanniana × Warscewiczii), a very large and richly-coloured hybrid, C. Mrs. J. W. Whiteley, C. Lueddemanniana, Sophrocattleya Atrens (S. grandiflora ×

C. Lawrenceana), Odontoglossum grande, Phalænopsis Esmeralda, Cypripedium tonsum, C. Euryades, and others.

Mr. E. V. Low, Vale Bridge, Haywards Heath, staged a few good things, including the handsome Cirrhopetalum ornatissimum, Bulbophyllum cocoinum with four spikes, Oncidium incurvum album, Brassolælia Jessopii, Cypripedium Germaine Opoix, Rossetti, triumphans, langleyense and Wiertzianum with four spikes.

First-class Certificate.

Odontoglossum Harwoodii The Shrubbery variety (maculatum auriferum × Wiganianum).—A remarkably large and handsome form, having bright yellow flowers, spotted with brown on the lower part of the segments, the lip being an inch and a quarter broad, and bearing three large solid deep brown blotches. Exhibited by Messrs. Charlesworth & Co.

Awards of Merit.

Cattleya Mrs. Frederick Sassoon (Mantinii nigrescens × Dowiana aurea).—A very richly-coloured hybrid bearing three flowers, most like those of the former parent, but much larger, and having a more open lip, the sepals and petals bright rose, and the lip purple-crimson, with some yellow veining at the base. Exhibited by Francis Wellesley, Esq.

Epidendrum Laucheanum.—A graceful and remarkable species, bearing two pendulous racemes over two feet long, and having two rows of greyish purple flowers with an orange-yellow lip. Exhibited by Sir Trevor Lawrence, Bart.

Cultural Commendations.

Habenaria militaris.—A group of remarkably well-grown plants. To Mr. J. Hudson, gardener to Leopold de Rothschild, Esq.

Zygopetalum maxillare.—A large and very finely-grown plant, bearing about two dozen spikes. To Mr. W. H. White, Orchid grower to Sir Trevor Lawrence, Bart.

Manchester and North of England Orchid.

At the meeting held on Thursday, September 14th, the members of Committee present were :—*Z.* A. Ward, Esq. (in the Chair), R. Ashworth, W. R. Lee, C. Parker, H. Thorp, J. C. Cowan, J. Cypher, W. Holmes, A. J. Keeling, F. K. Sander, and H. Arthur (secretary).

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), was awarded a Silver-gilt Medal for a magnificent group of Cattleyas of the Iris section, prominent amongst which was a fine C. Iris Ward's var., to which a First-class Certificate was given—a large flower, brilliant in colour, with intense lip. Amongst the Cypripediums were noticed Rossetti, triumphans, and Leeanum var. Corona. A Cultural Certificate and Bronze Medal were granted to the gardener for the excellent growth of the Cattleyas shown.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), staged a nice group, to which a Silver Medal was awarded, Cattleyas and Cypripediums being well represented. Cattleya Gaskelliana alba and C. Iris sanguinea were very good, as were also Læliocattleya Dominiana langleyensis, Cypripediums Rossetti, Chorltonii, and Lycaste Skinneri alba.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), was awarded a Silver Medal for a group of choice plants, Cattleyas Thurgoodiana var. nobilior (F.C.C.), Gaskelliana alba, Brassocattleya Mrs. John Leemann (C. Dowiana aurea × B. Digbyana), Læliocattleya Maqueda (A.M.), Dendrobium Phalænopsis Colmanii (F.C.C.), Cypripediums Rossetti, Iris Plumpton Hall var., and bingleyense, amongst others, making a nice display.

Dr. Hodgkinson, Wilmslow (gr. Mr. Woore), staged an interesting plant of Lælia tenegalis (grandis tenebrosa × majalis), which received an Award of Merit.

R. Ashworth, Esq., Newchurch (gr. Mr. Gilden), staged a plant of Catasetum macrocarpum of an unnamed variety (A.M.).

J. McCartney, Esq., Bolton (gr. Mr. Holmes), staged Læliocattleya Rubens var. magnifica (A.M.), a good variety.

Messrs. J. Cypher & Sons, Cheltenham, were awarded a Silver Medal for a group containing some nice Cypripediums triumphans, Niobe superbum, Milo, Leoniæ and Fairrieanum, Miltonia spectabilis Moreliana, a nice dark variety, Vanda cœrulea, Odontoglossum grande, and a nice plant of Phaiocymbidium chardwarense.

Messrs. Keeling & Sons, Bradford, staged a group to which a Bronze Medal was awarded, Cypripediums predominating, the best being C. Kimballianum, Lord Derby, Rolfei superbum, Charlesworthii, Milo superbum, Arthurianium, Hitchinsiæ, and gigas Corndean var. Oncidium microchilum, with a fine spike, was very interesting; also the pretty O. ornithorrhynchum. Several good Cattleyas completed the group.

Messrs. Hassall & Co., Southgate, staged a few plants of merit, a plant of Cattleya iridescens var. cuprea (bicolor × Eldorado) (A.M.) being specially noticeable; also a new hybrid, not named (C. Harrisoniana × Iris), Læliocattleya Walter Gott, and Cypripedium insigne Harefield Hall var. × Hitchinsiæ.

Mr. Edward V. Low, Vale Bridge, Haywards Heath, staged Cattleya Gaskelliana var. Phyllis, C. Adula, a fine variety, Cypripedium mirabile, and C. Amboyna.

Mr. W. Shackleton, Great Horton, Bradford, staged a plant of Cypripedium Lord Ossulston Chillingham var.

FIRST-CLASS CERTIFICATES.

Cattleya Thurgoodiana var. nobilior, a splendid flower of good form and substance, from W. R. Lee. Esq., Heywood (gr. Mr. Woodhouse), and

Dendrobium Phalænopsis Colmanii, a large full flower, well lined in the lip, from the same exhibitor.

Cattleya Iris Ward's var., one of the finest forms of the type seen, with sepals and petals very brilliant, and intense colour in lip, from *Z.* A. Ward, Esq., Northenden (gr. Mr. Weatherby).

AWARDS OF MERIT.

Læliocattleya Maqueda (L.-c. Geo. Woodhams × C. Lord Rothschild), an excellent form, very even in colour, from W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse).

Cattleya Adula var. Maronii, from *Z.* A. Ward, Esq., Northenden (gr. Mr. Weatherby); also Cattleyas Iris St. Gilles, and "No. 3," both fine forms, from the same exhibitor.

Lælia tenejalis (grandis tenebrosa × majalis), a large flower of deep colour, from Dr. Hodgkinson, Wilmslow (gr. Mr. Woore).

Catasetum macrocarpum, a well-flowered plant of a supposed new variety, from R. Ashworth, Esq., Newchurch (gr. Mr. Gilden).

Læliocattleya Rubens, var. magnifica, a very nice variety, of good form, from J. McCartney, Esq., Bolton (gr. Mr. Holmes).

Cattleya iridescens, var. cuprea (bicolor × Eldorado), a very nice form, and brilliant in colour, from Messrs. Hassall & Co., Southgate.

Miltonia Crashlayana, var. alba, a very sweet flower of the type, from Messrs. A. J. Keeling & Sons, Bradford.

At the meeting held on September 28th the members of Committee present were: Rev. J. Crombleholme (in the Chair), R. Ashworth, W. R. Lee, C. Parker, H. Thorp, *Z.* A. Ward, J. Cypher, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, W. Stevens, and H. Arthur (secretary).

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), was awarded a Silver Medal for a group of plants, consisting of Cattleyas and Cypripediums, the most noticeable being Cattleya St. Gothard, C. Iris var. Cæsar, C. Iris var. Ixion, C. Priam, and C. Venus Plumpton Hall var. In the Cypripediums, Boltonii and gigas Corndean Hall var. were well shown.

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), was awarded a Silver Medal for a group—quite a collection—of Odontoglossum grande, with Cattleyas and Cypripediums, making a fine display; Cattleyas Ashtoniæ, Germania, and Iris var. G. Weatherby, were the best, and several hybrid Cypripediums were of good form.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), staged a good group, to which a Silver Medal was awarded, consisting principally of Cattleya hybrids, C. John Baguley, Mrs. Pitt, Princess Patricia, and Minucia being amongst the best. Several Cypripediums, including callosum Sanderæ, were also exhibited.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), was awarded a Bronze Medal for a small mixed group, Cattleya Maronii, a fine form, Odontoglossum ardentissimum, a good O. crispum, Lycaste Skinneri alba, and several Cypripediums going to make a nice exhibit.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), staged splendid forms of Cattleya Iris var. Golden Queen, C. Adula Auburn House var., and a plant of Cypripedium Juliet.

W. Thompson, Esq., Walton Grange (gr. Mr. Stevens), staged Cypripediums Germaine Opoix and Gaston Bultel, both very fine forms.

H. J. Bromilow, Esq., Rann Lee (gr. Mr. Morgan), also staged a good plant of Cypripedium Germaine Opoix.

Messrs. Stuart Low & Co., Enfield, staged a fine Cattleya Hardyana var. enfieldensis and C. Gaskelliana var. Delight.

Messrs. A. J. Keeling & Sons, Bradford, staged Cypripedium Actæus, Westgate var., and C. Curtisii × vexillarium.

FIRST-CLASS CERTIFICATES.

Cattleya St. Gothard, from W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), a noble flower, of very even colour, with intense lip.

Cattleya Iris var. Cæsar, from the same exhibitor, a well-formed flower, almost round; sepals and petals plum colour, with deep crimson lip.

Cattleya Hardyana var. enfieldensis, from Messrs. Stuart Low & Co., Middlesex, a very fine flower, of good colour, and well lined in the lip.

AWARDS OF MERIT.

Cattleya Iris var. Ixion, from W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), a flower of good shape and rich in colour.

Cattleya Germania, from Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), a good plant, well flowered, very bright.

Cattleya Iris var. G. Weatherby, from the same exhibitor, one of the largest forms of the type yet seen.

Cypripedium Euryades × Parkerianum, from the same exhibitor, a massive bloom, following almost entirely the Parkerianum parent.

Cattleya Iris var. Golden Queen, from J. J. Holden, Esq., Southport (gr. Mr. Johnson), a most delightful variety, of a bright golden colour.

Cattleya Adula Auburn House var., from the same exhibitor, a well-set flower, very distinct in colour, the two plants making a rather pleasing contrast.

Cattleya Gaskelliana var. Delight, from Messrs. Stuart Low & Co., Enfield, a pleasing flower with white sepals and petals and lip faintly lined.

Cypripedium Actæus Westgate var., from Messrs. A. J. Keeling & Sons, Bradford, a fine well-balanced flower, of good colour.

Cypripedium Curtisii × vexillarium, from the same exhibitor, a good form and well coloured.

ORCHIDS IN SEASON.

A FLOWER of a charming little hybrid is sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. Stevens, who remarks that it is a seedling from O. nævium crossed with a blotched form of O. crispum. It is a form of O. Nerissa, originally raised in the collection of de Barri Crawshay, Esq., Rosefield, Sevenoaks, and described at page 185 of our sixteenth volume. It has retained much of the O. nævium shape and undulate segments, but is much enlarged, and the ground colour is white, copiously blotched with red-brown.

Three handsome flowers have been sent from the collection of G. Hamilton-Smith, Esq., Finchley, by Mr. Coningsby. The first, derived from Cattleya Schilleriana × C. Mossiæ Arnoldiana, is a very large form of C. Harrisiæ, the petals being 3½ inches long, and the colour lilac-rose, while the side lobes of the strongly three-lobed lip are white, and the broad undulate front lobe veined with crimson on a lighter ground. It was purchased as a seedling three years ago. Cattleya intermedia alba × C. Mossiæ Reineckeana is a pretty blush-white flower, with rosy veining on the front of the lip, much as in the pollen parent. It may be called C. Dusseldorfii var. bella. Mr. Coningsby remarks: "Several of this batch have flowered, and all have been much alike. It is a very pretty little thing, but we had hoped for one white form at least, though up to the present it has not appeared." The remaining flower is Cattleya Mantinii nobilior, a well known and handsome form.

A flower of the striking New Guinea Paphiopedilum præstans is sent from the collection of Edward H. Robertson, Esq., Burnside, Forfar, N.B. Mr. Robertson remarks that it is from an imported plant, obtained from Messrs. Armstrong & Brown, and that it has now produced a scape 20 inches high, with four flowers.

A flower of Læliocattleya Ursula (L.-c. crispa × L.-c. corbeillensis) is sent from the collection of E. F. Clark, Esq., Evershot, Dorchester. It is decidedly superior to the original form, described at page 157 of our fifteenth volume, having bright rose sepals and petals, and the front lobe of the undulate lip rich purple, with darker veins, and the tube much paler. Mr. Clark remarks that the plant is strong and shows more of the crispa habit than the original one. Another interesting flower has the record Cattleya Leopoldii × Mossiæ, and has bronzy sepals and petals, and a deeply three-lobed lip, with a broad bright purple front lobe, and paler acute side lobes. A flower of another seedling was noted at page 348 of our last volume, and there was a doubt about the parentage. The pollinia, however, are as in Cattleya, and we suppose it must be a form of C. Cyane.

Two very diverse forms of Læliocattleya Walter Gott (C. bicolor ×

L.-c. bletchleyensis) are sent from the collection of Messrs. Sander & Sons, St. Albans, one having bronzy brown sepals and petals and a deep purple lip, while the other has buff yellow sepals and petals with a light purple lip. A large number of plants from this batch have flowered and show a remarkable range of variation. A flower of a handsome hybrid derived from Læliocattleya bella and Brassavola Digbyana is also sent, having bright purple flowers, with the front lobe of the lip darker, and elegantly fringed. It is a bright and attractive flower.

A flower of the striking Oncidium Janssenii (tigrinum × Forbesii) is sent by Messrs. Charlesworth & Co., Haywards Heath. It combines well the characters of the two parents, having yellow sepals, heavily barred with brown, similar but much broader petals, and an ample three-lobed yellow lip, with an oblong crest, bearing many brown tubercles. A good plant was shown at the R.H.S. meeting on September 26th last.

BULBOPHYLLUM ORTHOGLOSSUM.

AT the R.H.S. meeting held on September 12th last, a striking Bulbophyllum was exhibited from the collection of Sir Jeremiah Colman, Bart., Gatton Park, Reigate, and was referred to the Scientific Committee for determination, where it was determined as Bulbophyllum orthoglossum, Kränzl., a Malayan species introduced by Messrs. Sander & Sons, through their collector Micholitz, and described in 1896 from a plant which flowered with M. Wendland, at Herrenhausen (*Gard. Chron.*, 1896, i. p. 326). In June, 1908, it flowered in the collection of Sir Trevor Lawrence, Bart., and was exhibited at a meeting of the R.H.S., when a figure appeared (*Gard. Chron.*, 1908, i. p. 406, fig. 182). It is a large-flowered species, most allied to B. mandibulare, Rchb. f., and has broad, acuminate sepals, these and the petals being striped with dark red-brown on a greenish ground, while the fleshy lip is recurved, narrow, and dark lurid red in colour. The original habitat was not recorded, but the present one is said to have been introduced from the Philippines.

DENDROBIUM UNDULATUM BROOMFIELDII.—At the R.H.S. meeting held on August 29th last an inflorescence of a very distinct pale greenish yellow flower of Dendrobium undulatum was exhibited from the collection of Sir Trevor Lawrence, Bart., Burford, as recorded at page 278. It is possibly D. undulatum Broomfieldii, a variety figured and described by Fitzgerald (*Austral. Orch.*, ii. pt. 3, tab.). It was discovered in Northern Australia, and flowered in the greenhouse of Captain Broomfield, who submitted materials to Fitzgerald for figuring. The flowers are said to be rather smaller than in D. undulatum, and they are shown of a nearly clear canary yellow, but in other respects they agree with the type. R. A. R.

VANDA MARONIÆ.

At the R.H.S. meeting held on September 26th last a very fine plant of Vanda Maroniæ was exhibited by Messrs. Charlesworth & Co., Haywards Heath, bearing a spike of ten flowers. It is a hybrid between V. teres and V. suavis, and was raised by M. Ch. Maron, Brunoy, France, and flowered in 1903 (*Orch. Rev.*, xi. p. 209, fig. 38). The flowers are most like those of V. suavis in shape, and the sepals and petals light rosy lilac with a few

Fig. 34. Vanda Maroniæ.

minute dark dots, while the lip is strongly three-lobed, and bright purple in colour, and the disc yellow dotted with purple. The habit of the plant is very distinct, the leaves being terete, narrowed upwards from a somewhat broader base, and much longer than in V. teres. One of the leaves is indistinctly shown in the illustration. It may be interesting to reproduce the figure for comparison with V. Joaquimiæ, another V. teres hybrid, figured on page 297, and the only other artificially-raised Vanda known.

CIRRHOPETALUM CAUDATUM.

THIS singular little plant is grown at Glasnevin and in one or two other collections. It was described by Lindley over seventy years ago from materials collected in Nepal, by Wallich, under the name of Bulbophyllum caudatum (*Gen. & Sp. Orch.*, p. 56), and for a long period little further was known about it. More recently it has been collected in the Khasia Hills by Gustav Mann, and in Sikkim by Pantling, the latter recording it as found from 1,500 to 6,000 feet altitude. It has been figured by King and Pantling under the name of Cirrhopetalum caudatum (*Orch. Sikkim Himalaya*, p. 93, t. 129), the plant having a short dorsal sepal, and very long caudate lateral sepals, as in other Cirrhopetalums. It is a very dwarf species, and has ovoid pseudobulbs, bearing a single ovate leaf, and short scapes, the whole scarcely exceeding an inch high. The flowers are whitish, borne in umbels, and the long caudate lateral sepals are about as long as the scapes. The pseudobulbs are borne about an inch apart on a creeping rhizome.

R. A. R.

CATASETUM SEEDLINGS.

A REMARKABLE example of the profuse manner in which Orchids from seeds may be raised in a suitable house, says the *Gardeners' Chronicle*, may be seen in the gardens of J. S. Bergheim, Esq., Belsize Court, Hampstead (gr. Mr. H. A. Page). A few months ago Mr. Bergheim brought a small collection of native Orchids from Trinidad, among which was a mass of Catasetum macrocarpum, bearing several large mature seed capsules. The plants were potted, and in due time the fruits burst and the seeds became distributed, some of them finding their way to the water tank. The result is that on the surface of the pots, the sides, and in every conceivable situation there are strong seedling Catasetums, up to two or three inches in height. Osmunda fibre seems to be specially favourable for the germination of the seeds and growth of the young plants.

ORCHID LEAVES SCALDING.—A correspondent writes: "During the summer some of my Cypripediums and Cattleyas have developed marks on the leaves like the enclosed. Is it some kind of fungus, or caused through some improper treatment? I shall feel obliged for your opinion as to future treatment." Two examples of the leaves are sent, but we cannot find any evidence of fungi. The discolouration begins on the upper surface of the leaves and then gradually extends to the under side. It looks like a case of burning or scalding, and may have occurred through temporary absence of shading during the recent hot weather. It will probably not recur. Perhaps some of our readers may have had a similar experience.

ORCHID NOTES AND NEWS.

THE next meeting of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, on October 10th, when the Orchid Committee will meet at the usual hour, 12 o'clock noon. No groups will be admitted on this occasion, but only plants shown for Certificate, as the Show on this occasion is devoted to British grown fruit. The next ordinary meeting will be held on October 24th.

The next meeting of the Manchester and North of England Orchid Society will be held at the Coal Exchange, Manchester, on October 12th. The Committee meets at noon, and the exhibits are open to inspection from 1 to 4 p.m. The following meeting is fixed for November 2nd.

A fine photograph of an albino of Cattleya Warscewiczii is sent by Mr. Andrew McDonald, Superintendent of the J. B. Coryell Estate, Menlo Park, San Mateo, California. The scape, which was recently produced, bears three flowers, which Mr. McDonald remarks measured 9½ and 10 inches from tip to tip of the petals, the colour being pure white, with some greenish yellow markings in the throat of the lip. The flower lasted three weeks, but after the eighteenth day it developed a slight pink tinge on the front of the lip. Finally he remarks, "We are anxiously looking forward to its future flowering, when we shall exhibit this truly fine acquisition."

An illustration of the fine group of Vanda cœrulea exhibited at an R.H.S. meeting held in August last by the Duke of Marlborough, Blenheim Palace, Woodstock, and to which a Silver-gilt Flora Medal was awarded, is illustrated in the *Gardeners' Magazine* for September 30th (page 722).

LÆLIOCATTLEYA AMANDA.—The history of the natural hybrid Lælio-cattleya amanda, and the fact that it had now been raised artificially were given at page 216. An artificially-raised seedling was exhibited by Messrs. James Veitch & Sons at the R.H.S. meeting held on September 26th, which agrees well with the one previously noted. We wish that someone would now take any opportunity that may present itself of intercrossing Lælia Boothiana and Cattleya Forbesii, in the hope of proving the natural hybrid Læliocattleya Verelii. R.A.R.

LÆLIOCATTLEYA ELEGANS.—A flower of Læliocattleya elegans has been sent from the establishment of Messrs. James Veitch & Sons, Langley, Slough, by Mr. Briscoe, who remarks that it was raised from Cattleya Leopoldii crossed with a white form of Lælia purpurata, and that it flowered for the first time a year ago. It was thought that the parentage

had already been proved, or a flower would have been sent then. Several plants out of the batch have now flowered, and one of them was shown at the last R.H.S. meeting. The flower sent is quite typical in character, and well-coloured. It is interesting to find that the parentage of this well-known natural hybrid should at last have been proved experimentally in two different places. R.A.R.

ORCHID PORTRAITS.

ACINETA MOOREI, Rolfe.—*Bot. Mag.*, t. 8392.

CYCNOCHES CHLOROCHILON.—*Journ. Hort.*, 1911, ii. p. 219, with fig.

DENDROBIUM VICTORIA-REGINA.—*Journ. Hort.*, 1911, ii. p. 243, with fig.

HOULLETIA WALLISII.—*Gard. Chron.*, 1911, ii. p. 177, fig. 84; *Gard. Mag.*, 1911, pp. 650, 661, with fig.

LÆLIOCATTLEYA INGRAMII GIGANTEA.—*Journ. Hort.*, 1911, ii. p. 267, with fig.

LÆLIOCATTLEYA WELLSIANA LANGLEYENSIS.—*Journ. Hort.*, 1911, ii. p. 291, with fig.

MORMODES REVOLUTUM, Rolfe.—*Bot. Mag.*, t. 8390.

ODONTOGLOSSUM HARWOODII SHRUBBERY VAR.—*Gard. Chron.*, 1911, ii. pp. 245, 246, fig. 111.

SOPHROCATLÆLIA JEANETTE.—*Gard. Mag.*, 1911, pp. 689, 690, with fig.; *Gard. Chron.*, 1911, ii. pp. 211, 229, fig. 106.

VANDA CŒRULEA (group of).—*Gard. Mag.*, 1911, p. 722, with fig.

ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work*].

G.H.M.—We have no record of the hybrid you mention, nor yet of the suggested name having previously been used, and shall be glad if you can verify the point in doubt.

W.G.—Paphiopedilum Ashburtoniæ.

G.H.H.—Maxillaria rufescens.

J.C.—We will report shortly on this matter.

PHOTOGRAPHS OF ORCHIDS.—We should be glad if those of our readers who have photographs of new, rare or interesting Orchids would favour us with copies for record in our pages, and from which a selection would be made for reproduction.

We have received from Messrs. Blake & Mackenzie, Ltd., Horticultural Printers and Stationers, Liverpool, a Catalogue of labels of various kinds, with prices, including waterproof plant labels, permanent Manilla labels suitable for attaching to trees, and Exhibition labels, together with parcel post boxes for the consignment of flowers, and other horticultural sundries which are in daily use by all Orchid growers.

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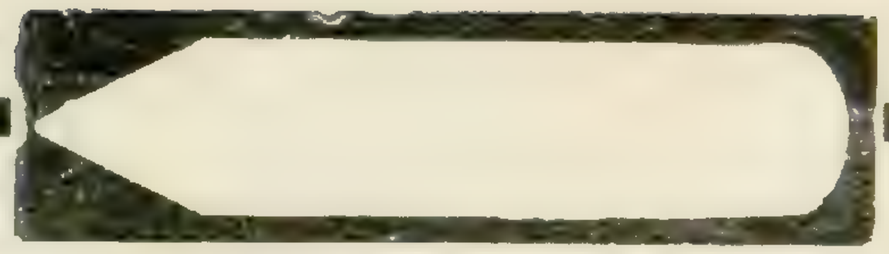

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Vol. XIX., No. 227. THE NOVEMBER, 1911.

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An Illustrated Monthly Journal.

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THE ORCHID REVIEW.

VOL. XIX.] *NOVEMBER*, 1911. [No. 227.

OUR NOTE BOOK.

A REMARKABLE and very beautiful hybrid was exhibited at the R.H.S. meeting held on October 24th by Sir George L. Holford, under the name of Læliocattleya luminosa aurea, to which a First-class Certificate was awarded. It was raised from Lælia tenebrosa Walton Grange var. crossed with the pollen of Cattleya Dowiana aurea, and differs from the typical L.-c. luminosa in having clear deep primrose yellow sepals and petals. as in the seed parent. It is very interesting to find the yellow colour carried on to the next generation, as the fact may be of importance in connection with the origin of the much-wanted race of yellow Cattleyas. C. Dowiana has hitherto been very disappointing in this respect, as most of its hybrids have pink or rose-coloured sepals and petals, and the species itself has frequently a mottling of red. Possibly the red was absent from the form used on this occasion, but if this was the case it does not explain much, for such a form must frequently have been used before, though not often in conjunction with another parent having clear yellow sepals and petals. It will be interesting to see if other seedlings from the same batch agree in this essential character.

We are asked whether, on grounds of priority, this plant should not have been called Læliocattleya Truffautiana aurea, and the answer appears to be in the affirmative, though the question is not without difficulty, as we pointed out soon after the plants originally appeared (*O. R.*, x. p. 152). Læliocattleya Truffautiana was raised by M. Ch. Maron, and was exhibited by him in Paris, on October 10th, 1901, and duly recorded. On November 12th following a hybrid of the same parentage was exhibited by Messrs. Charlesworth & Co., in London, as L.-c. luminosa, and M. Maron at once protested against the change of name. Then we were informed that Messrs. Charlesworth's plant was exhibited at the Chrysanthemum Show of the Manchester Royal Botanical and Horticultural Society in the autumn of 1900, and received a First-class Certificate. We looked up the report of the meeting in two horticultural papers without finding the plant mentioned, and then wrote to the Secretary, who replied that he could not find

any record about it. Unless this record can be found, or it can be shown that the name appeared in some Catalogue before L.-c. Truffautiana was recorded, we think that the latter has the right of priority, for the exhibition of a plant without a subsequent record does not secure priority. We have always felt a doubt in this case, perhaps even shared the reluctance which is evidently widely felt to see so good and applicable a name as "luminosa" set aside. There are several similar cases, and the moral is that suitable descriptive names should be given whenever possible, and, further, that when plants so named are exhibited they should be duly recorded.

Speaking of Nomenclature reminds us that the last issue of the *Journal of the Royal Horticultural Society* contains an article on Horticultural Nomenclature, which includes the "Rules of Horticultural Nomenclature adopted by the Subsection of Nomenclature at the International Congress at Brussels, 1910." As they were given in extenso in our May issue (pp. 130-133), we need not repeat them, but there is an interesting preface, including some Questions addressed to the Society previous to the Congress, and the Society's Replies, which we may touch upon.

In the first place the Society considers it essential that the rules adopted at the Vienna Congress should be strictly binding upon horticulturists, but agrees that these rules require to be supplemented, in order to meet numerous cases not already provided for. Going into details, they think that Latin names for horticultural varieties should not be proscribed, but should be restricted to forms of plants that are not recognised as "florists' flowers." The latter should receive fancy names or names in the vulgar tongue. As regards varietal names they think that these should be as short as possible, and should not exceed two words. The recommendations as regards publication are pretty much in accord with the rules subsequently adopted, and may be passed over, which brings us to the question of the names of hybrids, and we may give the next few questions and replies in detail.

Question.—In what language should the specific name of a hybrid be expressed? Many authors express the specific name of hybrids either in Latin or in some generally familiar language. Others consider this name should be in Latin; thus, Messrs. Rolfe and Hurst (*Orchid Stud-Book*) translate into Latin all specific names expressed in other languages. Example: Cattleya × Princesse Clementine becomes in their work C. × Clementinæ.

Reply.—The specific name of such hybrids should be of the Latin form.

Question.—Should the specific name of a hybrid be expressed as a single

word, or may it contain more words? Certain authors, as Messrs. Rolfe and Hurst, invariably adopt only one word, even when the name was published in Latin. Example: Cattleya × Memoria Bleui becomes according to them C. × Bleui.

Reply.—These specific names should consist of a single word.

Question.—If the specific names of hybrids are to be expressed in the vulgar tongue, should names consisting of three, four, five, or sometimes more words be permitted? Examples: Cattleya × Mademoiselle Marie Henriette de Wavrin (*Rev. Hort. Belge*, 1905, p. 272); Cypripedium × Mademoiselle Germaine Sellier de Gisors (*Journ. Soc. Hort. France*, 1893, p. 652); Cypripedium × Souvenir de Madame Jules Dupré (*Ibid.*, 1894, p. 583); Cypripedium × hybridum Frau Geheimrat Borsig (*Gartenflora*, 1892, p. 393, t. 1501).

Reply.—See answers to the two preceding questions.

Question.—Varieties of hybrids.—The following rule is generally adopted by English horticulturists, and is strictly observed by Messrs. Rolfe and Hurst in their *Orchid Stud-Book*:—

"All the hybrids arising from the crossing of the same two species carry the same specific name. All forms proceeding from the same crossing or from successive crossing of varieties of these two species are attached as varieties to the same specific name."

Should this rule, which seems indispensable in order to avoid the creation of an incalculable number of useless specific names, be adopted? Thus, in 1894, following the flowering of the first crossing resulting from the fertilisation of Cypripedium Spicerianum by C. × nitens, different plants of that single crossing received sixteen distinct specific names. Subsequently twenty other names were given to products of the same cross. In applying the foregoing rule these 36 names ought to have been assigned as varietal names under the same specific name (C. × aureum).

It is to be remarked that, in spite of the application of this rule, Messrs. Rolfe and Hurst still admit 758 specific names for hybrids obtained up to January 1st, 1909, in the genus Paphiopedilum, a subdivision of the old Cypripedium.

Reply.—The rule enunciated in the second paragraph of the section should be strictly adhered to. But when the parents of a hybrid are transferred to a new (or to another) genus, then the name of the hybrid follows, and the specific name would follow the rules applying to species under similar conditions.

Passing on to the subject of bigeneric hybrids, the Society recommends the adoption of one of its own rules—not always carried into practice, unfortunately—that the specific name should be written in Latin; and in

answer to the question whether the generic name should be written in a single word or in two words united by a hyphen, the reply is, "The hyphen should be omitted."

These replies afford an ample vindication of the position that we have taken in the past, but we are little surprised to read the following :—

"NOTE.—None of the foregoing rules and recommendations should be retrospective in their action where their application would require a change in an existing name, for such application would be likely to interfere greatly with commerce and with garden nomenclature of all kinds, and produce confusion worse confounded. This does not, however, preclude the application of the principle of priority, and the resultant sinking of many names as synonymous."

But how, we would ask, are we to get rid of an objectionable name, except by changing it ? As a matter of fact in the *Orchid Stud-Book* we changed the name Cattleya Mademoiselle Marie Henriette de Wavrin into C. Wavriniæ, on the ground that it was not in accordance with rule, and we fail to see how we have made confusion worse confounded by the change—quite the reverse. We wish that all other sources of confusion could be eliminated as easily.

We shall hope to see these rules and regulations carried into practice in the future. Some, indeed, are already adopted in the Report of the Orchid Committee, but the use of the hyphen is not altogether eliminated, and we notice the use of the generic name Sophrolæliocattleya, though the Rules expressly state that, as an exception to the new rule for the nomenclature of multigeneric hybrids, "the names of the trigeneric hybrids Brassocattlælia and Sophrocattlælia, already in use, are retained." We omit the second t, in accordance with the original spelling.

We take this opportnnity of correcting a mistake which appears in one of the questions cited above. The *Orchid Stud-Book* does not translate into Latin *all* specific names expressed in other languages. It adopts both classical and personal names, without request to language, if they have the necessary quality of being limited to a single word (See "reply" above). It adopts the simple rule :—

"Hybrids between species should receive specific names, Latin or classical, consisting of a single word—the use, however, of two short words being permissible where they can be connected with a hyphen. Short names should be used for preference, those exceeding six syllables being considered inadmissible."

And it carries it out consistently. In short it adopts the classical binomial system of Linnæus and applies it to the nomenclature of hybrids.

A final question in the above-mentioned report relates to the utility of publishing an Index of adopted names, and the reply is: "Such an Index would be infinitely useful. The name of the species or variety according to the above rules, with its place and date of publication, and where possible a reference to a good figure, with indication of synonymy, would be required."

No doubt it would be useful, but think of the stupendous difficulties of compiling such a work. For hybrid Orchids it is already in existence, in the shape of the *Orchid Stud-Book*, but the return has not even covered the cost of printing. The work was expressly undertaken for the purpose of providing the information alluded to in the preceding paragraph, and we think that every hybridist should secure a copy.

And now we have a serious proposal to make. It is that no certificate be awarded to plants whose names are not in accordance with adopted rules. It would be an excellent means of securing a standard system of nomenclature. The Society already makes it a condition of granting a Certificate that a flower be given for painting, and even goes to the length of withdrawing the same when this condition is not complied with. It may, of course, be objected that Certificates are not given to names, but neither are they given to paintings.

CATTLEYA WARSCEWICZII.

WITH reference to the note at page 271 on the culture of Cattleya Warscewiczii (gigas), the following may be of interest to readers of the *Orchid Review* who are not working on all the old hard and fast rules of Orchid growing. In the New England States of America this species flowers more freely than it does in England, and this, I believe, is on account of the greater amount of sunshine throughout the year. The plants thus obtain more light. If grown in osmunda fibre alone, they should be potted very firmly, and kept at the warmest and lightest end of the house, and as near the glass as possible. I never use more than an inch of crocks for drainage, and always keep the base of the growth below the rim of the pot. By doing this the roots are kept inside the pot, and are taken better care of —at least that is my experience. About three years ago I potted up some plants that had been growing in baskets hanging from the roof of the Cattleya house, and so far as I could see by the back bulbs they had not flowered for many years, not even in their native home, and after being treated in this way they made a very strong flowering growth, and the next

year most of them made double breaks, and flowered on each. Some of the plants had as many as seventeen flowers on, in six-inch pots. I might also state that these plants were not kept quite so dry during their resting stage as is often done, but were allowed to grow just as they pleased.

W. E. EGLINGTON.

Orchid Grower to J. A. Carbone, Esq.,
West Berkeley, Cal., U.S.A.

In answer to the note on the above Cattleya at page 271, I should like to give my experience of the culture of this beautiful Orchid. It being a great favourite, I grow about a score of plants, at the warmest end of the Cattleya house, on an elevated shelf facing south. From the time that fresh growth starts until it has become almost fully developed, abundance of water must be given, but as soon as the sheath is seen between the new leaves, water should only be given sparingly, until it is seen whether flowers are forming. If they are, then the supply may be increased. I never shade throughout the year, except in summer to put a piece of tissue paper over the leaves to prevent scalding. Root disturbance must be avoided as much as possible. Its culture may be summed up as follows:—

(1) Plenty of heat and sun.
(2) No shade.
(3) Judicious watering.

Some years ago, a strain of this Cattleya was imported which, even in the hands of the best growers, often failed to bloom. Might I suggest that your correspondent has unfortunately some of them? Anyhow I should advise him to procure a plant or two of the new free-flowering strain.

C. ALWYN HARRISON.

A CROCUS-LIKE CYPRIPEDE.

A REMARKABLE malformed flower of Paphiopedilum Faire-Maud (Fairrieanum × Maudiæ) is sent from the collection of G. F. Moore, Esq., Bourton-on-the-Water, Gloucestershire, by Mr. W. H. Page, who remarks that they have not seen one like it before. The sepals are united almost to the apex, and the flower strongly resembles a white crocus, with a dark base and a few purple stripes. On slitting the perianth down to the base, we find a column, a quarter of an inch long, with an erect terminal stigma, three perfect staminodes, and a curious crumpled appendage, having the texture, colour and spotting of the side lobes of the lip. The petals and lip are absent, for the staminodial appendages which form the side lobes of the lip are united with the column, and developed as if from the staminal whorl, while the two normal anthers are replaced by staminodes. It is as remarkable in structure as in appearance.

CYPRIPEDES ON LIMESTONE.

LAST year you published some papers by Dr. Miles Johnston upon Cypripedium growing (*O. R.*, xviii., pp. 193-198, 225-230). In these papers—of exceptional interest and acumen—Dr. Johnston builds and banks heavily upon the use of limestone or mortar drainage. He confesses his ignorance of the habits of some species, and only claims a *probable* limestone habitat for all or most species. It may be of interest to him, and to your readers, for me to confirm that two of our best species, Paphiopedilum Haynaldianum and P. philippinense (the old and always attractive Cypripedium lævigatum) are found strictly upon limestone rocks, and nowhere else. The former is found in a very shallow and, strangely enough, adhesive yellow clay. It seemingly acts merely as a support for the stem, as the roots quickly pierce it down to the stone substratum. The second species occurs upon nearly vertical cliffs of very pure and hard limestone. There is practically no soil whatsoever, and these cliffs are quite devoid of any other vegetation than a dwarf and scrubby polypodium, with the roots of which those of the Cypripedes are mingled.

Both plants occur in deep narrow rifts or clefts in the rock, and the roots of the slippers find their way to the bottom, often going down to a depth of two to three feet. In the bottoms of these crevices is a thin accumulation of humus, the detritus of the decomposing leaves of the slippers and ferns. As these crevices are sharply tilted, they are scoured by our torrential rains, so that this residuum of food is often a scanty film.

I have a few plants of these two species growing in the conventional compost, upon a drainage base of this living (?) stone, and they are in excellent form and vigour. As limestone (unburned) is scarce and inaccessible in this locality, I have other plants where bits of mortar have been substituted, and must say that the results are unsatisfactory or worse.

It may be of interest to know that some of these cliffs have a nearly southern exposure, and in April and May—our hottest season—the plants are exposed to the full force of the sun till 3 to 4 p.m., the mean daily temperature maximum at that season approximating 90°-92° F., and occurring between 2 and 3 p.m. Nevertheless, the leaves at this season remain a brilliant green and rarely become flaccid. I cite this to illustrate how little after all we can utilise a knowledge of plant environment when we come down to their cultivation under restraint of any kind. Under pot culture, with like climatic conditions, and under a like sunny exposure, in ten days we would reduce them to cinders, or if water enough were used to prevent this, then to pulp.

WM. S. LYON.

Gardens of Nagtajan, Manila.

SELECTION OF PARENTS.

MANY of us have been emphasising the need of using the finest possible varieties for hybridising, and so far, so good; but this is not saying the last word in the matter. To my mind, it is a much more important thing when you use a good flower to make sure it also has good ancestry behind it. Because out of poor parents is occasionally flowered a good thing, that stray good thing is not the flower to use. When I began to interest myself in poultry breeding, a friend—well learned in such matters—said to me, "You must choose your strain. Better use a moderate thing from a good strain than a good thing from a bad strain." And it is the same with Orchids. We hear sometimes that someone has flowered a batch of "should be" White Cattleyas, some coming white and some coloured. I should be extremely sorry to use one of these "white" flowers to go on with to make a further white hybrid. I know too well what would happen in the next generation: and it would not be "White" seedlings. But cross together two good white flowers, each having come from home-raised seedlings, *where every seedling has come true white*, and I do not see how you could possibly get anything but white from such a strain, though there will still be differences as to shape and form. Of course the result would be the same from two imported white-flowered plants, if one could be sure they really were white: but it seems almost impossible to be certain, unless they have been proved by hybridisation, and that means such a waste of time if they should prove untrue—as I think it has been pretty well proved that if there is the faintest colour it will show itself in the next generation, and probably be very prominent there. Several such cases have been recorded, and we have heard of others.

With coloured hybrids, of course, we have to be careful in another way, choosing two well-coloured flowers, with well-coloured, good-shaped flowers again behind them, and even then, with all our care, we know Nature will have the last word, and pop a few rascals into the batch. But, following this plan, surely each generation should be better than the last, and contain fewer bad things.

I was much struck with a paragraph in the *Evening News* some weeks back on heredity. It said: "Sarah Siddons was a contemporary of Caroline, the least dignified of all our Queen Consorts. Some mischievous Fairy gave the sovereign Duke of Brunswick a daughter, who should have followed a caravan in plush and spangles. Mrs. Siddons was the child of a poor hairdresser, turned strolling manager, and she had the port and countenance of Sovereignty. Heredity has many puzzles left unexplained."

EMILY THWAITES.

23, Christchurch Road, Streatham Hill.

ONCIDIUM MANTINII.

THE annexed figure represents part of an inflorescence of the beautiful Oncidium Mantinii which appeared in the establishment of Messrs. Hugh Low & Co. some years ago. We do not know its precise history, but it agrees well with the original O. Mantinii, which appeared in the establishment of M. Truffaut, at Marseilles, whence it passed into the collection of M. G. Mantin, Olivet, near Orleans, and was described by M. Godefroy Lebeuf as probably a natural hybrid between O. Marshallianum and O. Gardneri, or possibly O. sarcodes (*Orchidoph.*, 1888, p. 47, with plate). It

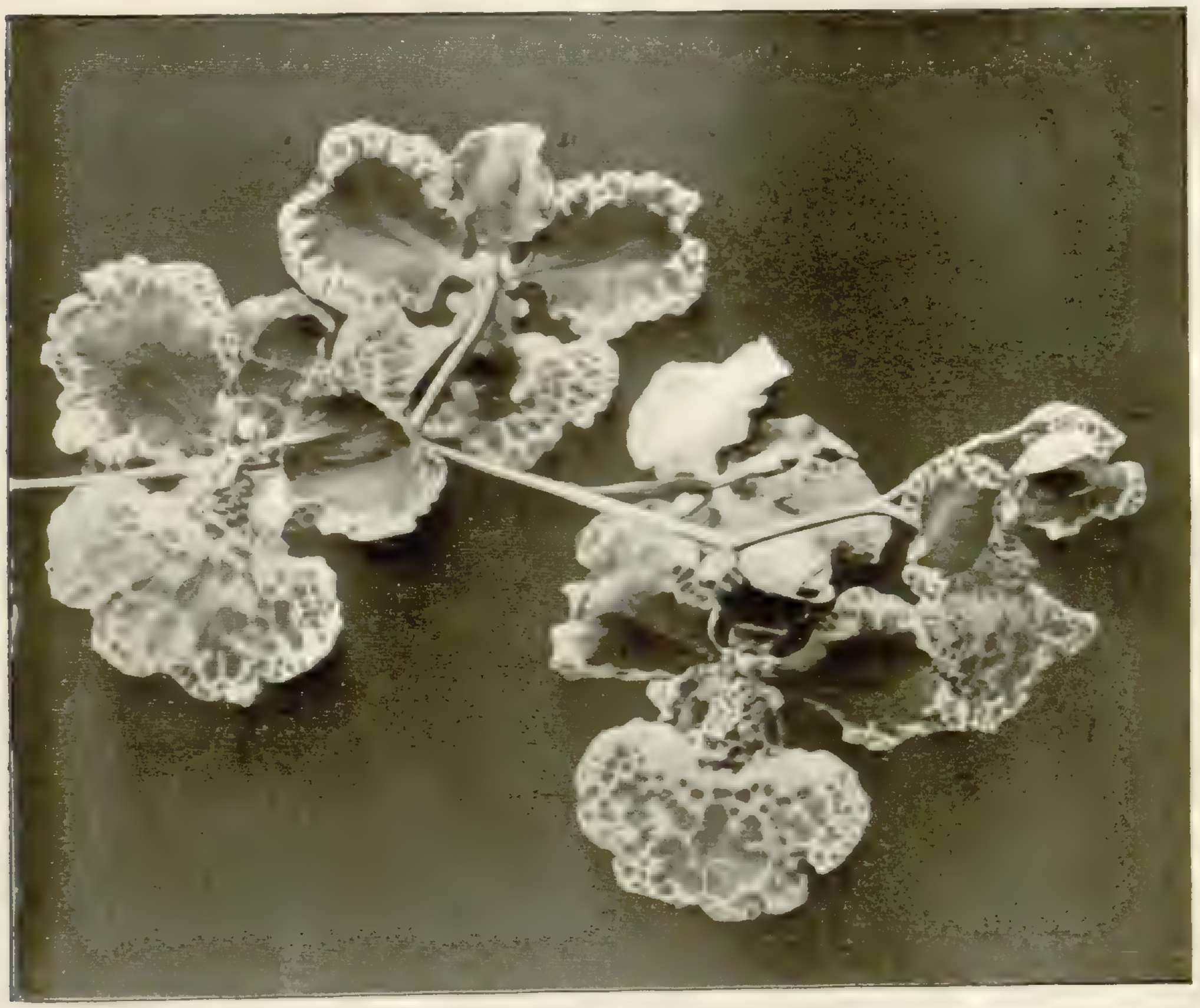

Fig. 35. ONCIDIUM MANTINII.

is said to have been received from M. Binot, of Petropolis, in an importation of O. crispum. We have considered O. Forbesii and O. Marshallianum as the more likely parents, and have suggested (*O. R.*, i. p. 299) that it may be a form of the earlier and long-lost O. pectorale, Lindl. (*Sert. Orch.*, t. 39), but the three dried flowers in the Lindley Herbarium are so much smaller that the suggestion may be incorrect, and the latter may have a different origin. We have not yet made much progress in clearing up the origin of the various natural Oncidiums, and it would be interesting if our hybridists would make a few experiments.

R.A.R.

CALENDAR OF OPERATIONS FOR NOVEMBER.

By J. T. Barker, The West Hill, Hessle, E. Yorks.

The temperatures for the different departments may continue much the same as advised last month. If any difference is made, it should be to slightly reduce, rather than increase the temperatures. This month generally, to the Orchid grower, is the worst in the whole year, as the climatic conditions are so varied as to often tax the patience and skill of the most talented cultivator. Clear frosty weather does no serious injury, but spells of dull, moist, and often mild weather occur, to say nothing of November fogs, and the latter in many districts do irreparable damage to flowers, buds, spikes, &c., and sometimes to the plants themselves, as those growers know who are placed in or around our large towns. Those who are placed in more favourable districts can hardly comprehend the difficulties the former have to contend with.

Stoking.—To keep the temperatures as even as possible, with a minimum of fire heat, should be the cultivator's aim; therefore the stoking of the fires should have great attention, and there is as much room for intelligence in the stokehole as there is in the potting or watering of our plants. A dry, parched, fiery atmosphere must always be strictly avoided; therefore damping down must be done with discretion, so as to keep a nice humid atmosphere, without causing an excess of moisture. Different houses vary to such an extent, that it is an impossibility to lay down a definite rule to follow. One may feel sure that if a house feels stuffy and uncomfortable to us it is the same to the inmates.

Ventilation must be attended to, as recommended last month, in fact our houses should have a supply of fresh air admitted whenever possible, and it is often surprising what can be done in this way with a little pains and forethought.

Watering at this season must have careful consideration, and a great responsibility rests on those who are entrusted with the watering of valuable plants, and therefore they should be quite certain that the plants require water before they apply it. I do not believe in dribbling water on a plant, and if it is not dry enough when one goes round with the can, let it wait until it is, and then water it properly. I believe the dribbling process is as injurious in Orchid cultivation, as it is with other plants, therefore it should never be attempted.

Dendrobiums of the spring-flowering section will now have finished their growths, and should be placed in their resting quarters. After they have all been thoroughly cleaned they should be placed well up to the roof glass, where they will enjoy all the light possible. They require very careful watering, so give them just enough to keep their bulbs and leaves

fresh and plump. I find that if this class of plants is allowed to shrivel or lose their foliage, the constitution of the plant suffers, and to this cause is attributable many of the miserable specimens that we see. D. Dearei is in full activity and should have every encouragement to make satisfactory growth. A nice shady position in the Stove or East Indian house answers its requirements. It is a most valuable Orchid when in bloom, as its flowers last practically all the summer months. D. Phalænopsis and D. formosum, as they finish flowering, should be induced to take a decided rest, to which end they may be removed to a slightly lower temperature. A sunny position in a warm Cattleya house will suit them during the winter months, and they should be given only sufficient water to keep the bulbs plump. D. Jamesianum and D. infundibulum, which have been growing in the Cool house, may be now removed to the cool end of an Intermediate house, where I find they do much better in the winter months than if left in the Cool house.

LÆLIA anceps and its varieties, in fact all the inmates of the Mexican house should be overhauled, and those developing their flower spikes should be neatly staked, cleaned, and so arranged, that they get every particle of light possible. This class of plant delights in an abundance of light, air, and moisture. At this season they should have water whenever they require it, until their flowers are developed. Care should be taken that their spikes do not touch the glass, or many flowers will be lost. In houses where the head room is limited the flower spikes may be tied down, so that they do not reach the roof.

LÆLIA HARPOPHYLLA.—One does not see this bright orange-red Lælia as much as it deserves, as its flowers are very attractive, especially when a nice batch of it is grown. When arranged in a group it always commands attention. The plants should now be removed to a light position in the Cattleya house, and afforded plenty of water at the root only, until the flowers open, when the plants should be kept on the dry side in a cool Intermediate house.

ODONTOGLOSSUM grande and O. Schlieperianum, that have recently bloomed, should be placed in a dry position in a cool Intermediate house, and be induced to rest. O. Insleayi and its varieties need a similar position, but as they are producing their flower spikes they must have more liberal treatment, watering whenever they require it. I find this class of Odontoglossum thrives much better at this season in the cool Intermediate house than in a lower temperature, though possibly in more favoured districts this may not be essential. Slugs are very partial to the flower spikes of this species, and woodlice to the roots, and they must be diligently searched for, and trapped in the usual ways.

ODONTOGLOSSUM CRISPUM, and hybrids from it, that have not been in a

fit condition to repot, will be better now left over till the early spring months, as I do not believe in disturbing them during the winter months unless it is absolutely necessary.

CATTLEYAS AND LÆLIOCATTLEYAS.—Many members of this showy family will now be in flower, and where they are grown in quantity there is plenty to interest even the most critical. Any plants which may require repotting, providing they are pushing new roots, may yet be done, always bearing in mind that they must be kept on the dry side till the new roots get well into the new compost. Cattleya labiata and its varieties, especially the white ones, are particularly interesting at this season, when everything is dull out of doors. Their beautiful flowers are always appreciated, even by those who profess to ignore Orchid flowers. C. Percivaliana and C. Trianæ, that have completed their growths, should be kept just moist at the roots until the flower spikes are seen to be pushing up at the base of the sheaths, when a little extra moisture will be necessary. The watering of Cattleyas, Lælias, and Læliocattleyas during the winter months is with many a very difficult matter, but I would impress upon everyone this fact. It is much easier to water a plant than to get it dry again, and therefore withhold water until you are satisfied that it is dry; but, on the other hand, do not let it shrivel for the want of water.

CYPRIPEDIUMS.—The warmth-loving Cypripediums, such as C. Stonei, C. philippinense (lævigatum), C. Lowii, C. Parishii, C. Rothschildianum and hybrids, such as C. Morganiæ, C. I'Ansoni, C. Shillianum, and others of this class, are now growing freely, and must have an ample supply of water, both at the roots and in the atmosphere. Syringing and spraying is best left alone during the winter months, as water is apt to settle in the growths and cause decay. Although this class of plant requires plenty of moisture at the roots, whilst in active growth, care must be taken that the plants do not get it in excess, as the loss of roots is the result of a plant becoming saturated and in a water-logged condition.

WINTER-FLOWERING CYPRIPEDIUMS are pushing up their flower spikes, and will make a fine show far into the new year, and where a good collection of them is grown there is much to admire and interest even the most fastidious. I will not pretend to give a selection, as the varieties of this popular family are so numerous, and even if I did attempt it, in many cases they would not be available, but in most cases there are some which are appreciated more than others, and all are beautiful. The plants should be thoroughly cleaned, and the flower spikes neatly staked up, so that every flower receives the maximum amount of light, and everything made spick and span by the time the plants get into flower and are at their best. To my mind there is nothing like clean foliage as a setting to good flowers, and that is why I urge cleanliness on all cultivators.

THE SELENIPEDIUM SECTION.—Plants of this section that are root-bound, and require repotting, may be done at this season, using the compost as recommended for the green-leaved section in previous numbers. The plants must be carefully watered until they become established, after which the roots should be kept moist at all times.

CŒLOGYNE CRISTATA and its varieties are fast finishing their growths, and the earliest pushing their flower spikes. During active growth this useful species needs considerable quantities of water at the root, but at the present time much less will suffice, although in no case should they be allowed to become dry, or many flower spikes will fail to develop. Many cultivators recommend periodical waterings with weak liquid manure, but unless the plants are in a semi-starved condition, I do not recommend it. If the plants have a good sweet rooting medium, and are in good health, it is unnecessary, and I am firmly convinced that manure water in many cases is harmful to Orchidaceous plants, especially epiphytic ones.

LYCASTE SKINNERI.—Varieties of this species will now be finishing their growths, and beginning to show their flower spikes. The plants should be kept on the dry side, but on no account must the bulbs be allowed to shrivel. The cool Intermediate house is a suitable place for the plants during the winter months. They are liable to attacks of red spider and brown scale, which must be constantly looked for and removed.

GENERAL REMARKS.—The cleansing of the houses and their inmates will occupy a great deal of time and attention, and at this season there always appears to be a vast amount of work that requires immediate attention, and therefore it is essential to push on with it as promptly as possible. The great things to observe are: An even temperature, no excess of moisture or fire heat, and above all things to avoid an excess of moisture when the temperature is low. Thrip and other insect pests must be watched for, and eradicated by the usual methods.

THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON, F.R.H.S.

COOL HOUSE.

AT this season of the year there is little work to be done beyond keeping up the necessary amount of heat, and maintaining cleanly conditions in the house. Wash off any shading that may have been applied to the glass during the summer, and if any fogs occur the glass must be well washed. Sponge the leaves of all plants, and give all that are in bud or spike enough water to keep the compost damp, but only give those that are growing sufficient to keep the compost just moist. Resting plants usually require water about once a week. Ventilate whenever outside conditions are favourable.

The house should be gay with some of the early winter-flowering Odontoglossum hybrids; also Oncidium Forbesii, tigrinum, sarcodes, and varicosum. Cypripedium insigne and villosum should be opening their flowers, and should receive liberal supplies of water. Be careful not to leave the spikes too long on the Oncidium species, or they will fail to give a satisfactory show the following season.

CATTLEYA HOUSE.

Here little is now needed beyond those points just mentioned. A few late-flowering Cattleyas, such as Dowiana aurea, Hardyana, Warscewiczii (gigas), and early labiatas may need repotting, and should be attended to. Use a mixture of osmunda fibre and sphagnum moss. Keep the plants as warm as possible, and only just damp until a thorough hold has been taken of the new compost. Damp down twice daily, about 9 a.m. and 4 p.m. Sponge the leaves of Vanda cœrulea twice a week, and give them and also Cattleyas all the light possible. If any of the former are out, do not allow the spikes to remain too long on the plants. Any Dendrobiums which have finished growing should have the supply of water gradually reduced, and be placed in the coolest part of the house. The time when most Dendrobiums require to be so treated is when the leaves of the last made pseudobulbs begin to turn yellow and drop off. This does not apply to the evergreen section.

The house should now present a grand sight, with Odontoglossum grande, Cattleya labiata, and hybrids in bloom. A few Vanda cœrulea and Kimballiana should also be out, and the former are certainly the most beautiful Orchids in existence. Keep V. Kimballiana well up to the roof glass, and always damp until the flower spikes are open.

SUGGESTED ADDITIONS.

COOL HOUSE.

ODONTIODA × BOHNHOFIÆ.—This is one of the prettiest hybrids of this genus, and one which should be included in every collection. The flowers are of good size, and freely borne on long arching spikes, usually in the late autumn. The sepals and petals are rather narrow, blood-red in colour, tinged with purple at their base, and occasionally showing some white in places. The lip is somewhat small, of a pretty salmon-pink, with a few scarlet spots, and a yellow crest. It is a cross between Odontoglossum cirrhosum and Cochlioda vulcanica, and in shape the blossoms most resemble the former, for the sepals and petals are much recurved, and acuminate. It is a hybrid of good constitution, and although the size of the blossoms is somewhat reduced, owing to the influence of the Cochlioda parent, it is an attractive and floriferous hybrid. It was first flowered by Messrs. Charlesworth in 1906.

ODONTOGLOSSUM × ARLEQUIN.—This is a beautiful hybrid, raised by

crossing O. Fascinator and triumphans, and since the former parent is itself a hybrid, this Orchid is therefore of secondary origin. In growth, and in the shape of the flowers, it bears a striking resemblance to the seed-bearing parent, O. triumphans. The blossoms are large, and freely borne on long arching sprays, and continue several weeks in perfection. The sepals and petals are of a clear light yellow, but this colour is almost obliterated by blotches of reddish brown. The lip is cream with a few spots of a pale cinnamon red. This Orchid is of recent introduction, and ranks as one of the best of the numerous O. triumphans crosses.

CATTLEYA HOUSE.

DENDROBIUM RUBENS.—This is one of the finest Dendrobium hybrids, and must be included in every Cattleya house. It is very variable, and, unfortunately, rejoices in many synonyms, which renders much unnecessary confusion. It is well known under the nâmes of D. Apollo, D. Virgil, and others. It was raised in 1893 by Messrs. Cypher, and is a great acquisition to the group. The flowers of the typical form are large and finely shaped, the sepals and petals being pale rose, which deepens to rich rosy purple at their apices. The lip is creamy yellow, with a rosy apex, and a large dark maroon blotch on the disc. This handsome hybrid is procurable for a guinea in flowering sized plants, and is endowed with a good constitution, and blooms with great freedom.

LÆLIOCATTLEYA CALLISTOGLOSSA.—This is a magnificent hybrid between Cattleya Warscewiczii (gigas) and Lælia purpurata, and although of early raising still ranks as one of the best of the summer-flowering kinds. The plant is a robust grower, and the flowers are fairly intermediate in shape between the two parents. The sepals and petals are rose, of a different degree of intensity in almost every bloom. The lip is large, and well open, of rich purple, with some yellow veining in the throat. This hybrid was raised in 1882, and unfortunately has been named by different raisers, according to their fancies, and hence there is a long list of synonyms. This handsome hybrid is now at its best, but there is really no definite time for the season when hybrids flower, as healthy plants often bloom out of season, and this soon prevents any definite season being allocated to their blossoming period.

PLEIONE PRÆCOX ALBA.—An albino of the charming little Pleione præcox has at last appeared in cultivation. Messrs. King & Pantling, in their *Orchids of the Sikkim Himilaya* (p. 141) when speaking of the species as very common at altitudes of 6000 to 8000 feet, remark:—"Occasionally a specimen occurs with its flowers pure white," but we cannot find any record of its introduction. Some few months ago a small batch of the species was received at Kew, from Darjeeling, and on flowering this autumn

one of the plants produced a couple of pure white flowers, with only a tinge of sulphur yellow on the disc, the whole of the usual purple markings being absent. It makes a charming contrast with the typical form, and will, of course, be taken care of. The species is rather widely diffused, extending westwards to Ghurwal, and east and south to Bhotan, the Khasia Hills and Burma. It is a very useful, autumn-flowering plant, and very easily grown in shallow pans in the usual compost. R. A. R.

VANDA SANDERIANA.

MESSRS. SANDER having secured another importation of this fine Orchid, a few notes on the manner of re-establishing it, and on its subsequent cultivation, may be acceptable. A good illustration of a remarkable specimen of this Vanda is given on page 281 of the present volume, hence a long description of the plant and its habit would be superfluous. The photograph in question, however, hardly does justice to the flowers, and of these a short account is appended. Individually they are of good size, frequently five inches across and of firm texture.

The sepals are rosy-white with a few dark spots at the base, and the petals large and almost circular, of a deep yellow, veined and pencilled with carmine. The lip is dark, with side lobes of green. It is an extremely handsome Orchid, and one of which the supply should soon be bought up, as it is rarely obtainable.

Upon receiving a few plants, they should be carefully examined, and any dead roots and decayed leaves be removed. Then fill cylinders, made of teak-wood, half full of clean broken crocks, and on these set the plants, making them quite firm by gently wedging some more crocks between the roots. Then add a little compost, which should be used in a damp state, and should consist of Polypodium fibre and short green sphagnum moss.

Stand the plants on the staging at the warmest end of the East Indian house, and keep just damp until they have become quite re-established. When in full growth, from April till September, a good dose of tepid rain water will be needed daily, when the weather is fine, and plenty of overhead syringing must also be given. Shade from bright sun throughout the year. The leaves of this Vanda should be sponged once a week with tepid water. It flowers in September, and then should be given a little extra water until the time when the blossoms are fully expanded. After the spike has been cut off, a good dose once a week will be sufficient watering until the following spring.

The temperature throughout the year must be as high as possible, and the plants, although not liking direct sunlight, must yet be placed in a light position. When well grown there are few Orchids to equal it, and Messrs. Sander are fortunate in re-introducing it. C. ALWYN HARRISON.

PAPHIOPEDILUM LUCIFER.

AT the R.H.S. meeting held on October 10th last this fine hybrid was exhibited from the collection of Lt.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G. Alexander), and was awarded a First-class Certificate. It was derived from P. Niobe Westonbirt var. × P. Euryades,

Fig. 36. PAPHIOPEDILUM LUCIFER.

and combines well the characters of these handsome parents. P. Spicerianum, Fairrieanum, Boxallii and insigne are concerned in its ancestry, all it may be remarked belonging to the green-leaved group, and the result is a hybrid of great beauty, both in form and colour. The dorsal sepal is broad and

flat, with a white ground colour, becoming green at the base, the central band being purple, and the whole area heavily veined and marbled with purple, except at the margin. The petals are veined and suffused with purple brown on a light yellow ground, and the upper margin is beautifully undulate, while the lip is mahogany brown in front. The plant is very robust, with a short stout scape, and it will be seen that it carries a second bud. It is a very handsome acquisition.

SOCIETIES.

ROYAL HORTICULTURAL.

THE meeting held at the Royal Horticultural Hall, Vincent Square, Westminster, on October 10th, was devoted to a display of British-grown Fruit, consequently there was no general show of Orchids, though a number of interesting things were submitted to the Orchid Committee, three of which gained First-class Certificates.

Orchid Committee present:—J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Harry J. Veitch, Walter Cobb, J. Charlesworth, A. A. McBean, W. P. Bound, T. Armstrong, J. Cypher, W. H. Hatcher, H. G. Alexander, J. E. Shill, F. J. Hanbury, Gurney Wilson, W. Bolton, J. S. Moss, and C. J. Lucas.

E. H. Davidson, Esq., Borlases, Twyford (gr. Mr. F. Cooper), showed Læliocattleya Davidsoniæ (L.-c. bella × C. labiata), a fine hybrid, having blush rose sepals and petals, and a ruby purple lip with some yellow on the disc. L.-c. bella was derived from Lælia purpurata × C. labiata, so that the novelty is three-fourths derived from the latter.

J. Bridson Seatle, Esq., Fairfield, Richmond Road, Putney (gr. Mr. T. W. Paice), sent a very fine specimen of the rare Miltonia Karwinskii.

Messrs. Armstrong & Brown, Tunbridge Wells, showed Cypripedium Dallas (Curtisii × Fairrieanum), C. Thyone (Prewettii × Fairrieanum), C. Thisbe (beechense × Fairrieanum), and another which is mentioned under Awards.

Messrs. Charlesworth & Co., Haywards Heath, sent Odontoglossum grande aureum Charlesworth's var., a beautiful yellow form, the handsome Stanhopea platyceres, Gongora maculata, and a fine Odontioda which is mentioned under Awards.

Messrs. Hassall & Co., Southgate, showed Cattleya Hassallii (labiata × Frederickiæ), a finely shaped and handsome flower, and C. Parthenia Prince of Wales.

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent Cattleya Thurgoodiana Wivelsfield var., a richly-coloured form, C. labiata Italia, white with a tinge of pink on the lip, and C. Norba, apparently a C. granulosa hybrid, having the sepals and petals pale buff shaded with rose, and the lid

strongly three-lobed, with a rose-purple front lobe, a white base, and some yellow on the disc.

Messrs. Mansell & Hatcher, Rawdon, Yorks, showed Miltonia candida superba, a very fine form, having a large purple blotch on the lip, and a spike of a handsome white-petalled Cattleya, closely resembling C. Hardyana Countess of Derby.

Messrs. J. & A. A. McBean, Cooksbridge, showed a very fine specimen of Miltonia vexillaria Leopoldii, having rose-pink flowers, with a very dark blotch at the base of the lip.

FIRST-CLASS CERTIFICATES.

CYPRIPEDIUM LUCIFER (Niobe Westonbirt var. × Euryades).—A very handsome hybrid, having the general aspect of C. Niobe, but the flower much larger and broader in all its parts. The dorsal sepal is broad and flat, clear white, deeply veined and dotted with purple, with a darker band up the centre, and the base green with a few dark brown spots; while the petals are veined with purple brown on a light yellow ground, with a few dark spots at the base, and the broad lip tinged with mahogany red in front. Exhibited by Lt.-Col. Sir George L. Holford, K.C.V.O., Westonbirt, Tetbury (gr. Mr. H. G. Alexander).

CYPRIPEDIUM ROYAL GEORGE (Harrisianum superbum × Minos Youngii).—A very large and handsome hybrid, approaching Minos Youngii in the shape of the dorsal sepal, but with much broader petals. The dorsal sepal is broad and flat, white, with a small green base, and above this numerous lines of purple dots, flushed with rose between; while the petals are yellowish green, with the upper halves purple brown, and the lip of the latter colour. Exhibited by Messrs. Armstrong & Brown, Tunbridge Wells.

ODONTIODA EUTERPE (C. Nœtzliana × Odontoglossum Uroskinneri).—A brilliant hybrid, having orange-scarlet sepals and petals, and the lip broad, and closely mottled with rosy mauve. Exhibited by Messrs. Charlesworth & Co., Haywards Heath.

AT the meeting held on October 24th there was a very fine display of Orchids, including eight medal groups, other awards being two First-class Certificates, and one Award of Merit, the latter to a beautiful albino of Vanda Kimballiana, which has now appeared for the first time.

Orchid Committee present: J. Gurney Fowler, Esq., (in the Chair), and Messrs. J. O'Brien (hon. sec.), Harry J. Veitch, Sir Jeremiah Colman, Bart., Stuart H. Low, J. S. Moss, R. G. Thwaites, F. J. Hanbury, A. A. McBean, C. H. Curtis, T. Armstrong, Walter Cobb, J. Charlesworth, J. Cypher, W. P. Bound, W. H. Hatcher, H. G. Alexander, A. Dye, W. H. White, Gurney Wilson, and W. Bolton.

Lt.-Col. Sir George L. Holford, K.C.V.O., Westonbirt (gr. Mr. H. G.

Alexander), sent Cypripedium Oberon (Euryades × Fairrieanum), a fine form, with very handsomely blotched dorsal sepal, and the beautiful Læliocattleya luminosa aurea (See Awards).

W. P. Burkinshaw, Esq., Hessle, E. Yorks (gr. Mr. J. T. Barker), sent finely-grown and flowered examples of Cypripedium Lord Ossulston and C. Gaston Bultel.

H. J. Elwes, Esq., Colesbourne, Glos., sent good plants of Stenoglottis fimbriata, and the so-called Phaiocymbidium chardwarense, now considered to be a form of Phaius Ashworthianus.

M. le Comte de Hemptinne, St. Denis, Westrem, Belgium, sent Læliocattleya Steppestadiana (C. Lueddemanniana × L.-c. Andromeda), a very handsome thing, having deep yellow sepals and petals, and a ruby-red lip, with yellow veining in the throat.

Sir Trevor Lawrence. Bart., K.C.V.O., Burford, Dorking (gr. Mr. W. H. White), sent a very fine specimen of Octomeria crassifolia, in a large pot, and literally crowded with its dense fascicles of yellow flowers.

Frank Lloyd, Esq., Coombe House, Croydon (gr. Mr. E. Mills), showed Sophrolælia grangefieldiensis, a pretty hybrid from Sophronitis grandiflora and Lælia Jongheana.

E. J. Phillips, Esq., The Glebe, Sevenoaks, showed Oncidium Forbesii Glebe var., a very large-flowered and handsome form.

Edward Roberts, Esq., Park Lodge, Eltham (gr. Mr. W. Carr), sent Cypripedium Gipsy, derived from C. Ianthe superbum and C. niveum, a fine thing approaching C. Harrisonianum superbum in colour.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Cattleya labiata Lady Leese, a pretty white form, with a violet blotch on the front of the lip, and Læliocattleya Mrs. Phayre (L.-c. Norba × C. Dowiana aurea), having light yellow sepals and petals and a rose-pink lip; also a seedling from the reverse cross, called L.-c. Mrs. Phayre inversa, having rose-purple sepals and a richly-coloured lip.

Messrs. Armstrong & Brown, Tunbridge Wells, staged a very fine group, including some excellent forms of Cattleya labiata, C. Fabia, and C. Armstrongiæ, a fine C. Clarkiæ, C. Iris, the striking Sarcopodium Cœlogyne, Bulbophyllum grandiflorum, B. Godseffianum, Brassocattleya Leemanniæ, Cypripedium Franconia magnifica, C. Thalia Mrs. Francis Wellesley, C. Germaine Opoix Westfield var., C. villosum × Fairrieanum, Cœlogyne fuliginosa, Cirrhopetalum appendiculatum, Phalænopsis amabilis, and various other good things (Silver Flora Medal).

Messrs. Charlesworth & Co., Haywards Heath, staged a choice group, including some fine examples of Cattleya labiata, Wendlandiana, Mantinii, and Fabia—C. Fabia alba being a very charming form with white sepals and petals—C. Elaine, Læliocattleya Haroldiana, Beta, Orion, Ariadne,

luminosa, Celia, Bola, Golden Oriole, and other fine Læliocattleyas, Miltonia Bleuana nobilior, Oncidium varicosum concolor, Odontoglossum Aireworth, and some very fine Epidendrum vitellinum, one of them having a spike with three branches (Silver Flora Medal).

Messrs. James Cypher & Sons, Cheltenham, staged a fine group, including well-grown examples of Cattleya labiata, Mantinii, Fabia, Portia, Mrs. J. W. Whiteley, Heloisiæ, F. W. Wigan and others, Læliocattleya luminosa, Vanda cœrulea, Bulbophyllum grandiflorum, the rare Masdevallia angulata, Dendrochilum Cobbeanum, Oncidium Forbesii, O. varicosum Rogersii, Brassocattleya Thorntonii, and a very fine selection of Cypripediums (Silver Flora Medal).

Messrs. Hassall & Co., Southgate, staged a brilliant group, consisting largely of Cattleya labiata, including a good white form, and one in which the flowers were distinctly tinged with lilac blue. We noted also examples of C. Clarkiæ, Fabia, Minucia, Brassocattleya Maroniæ, Eria stellata, and a fine form of Angræcum infundibulum (Silver Flora Medal).

Messrs. Stuart Low & Co., Bush Hill Park, staged a fine and varied group, including some good Cattleya labiata, Dowiana, and others, Dendrobium Phalænopsis, Cycnoches maculatum and chlorochilon, Vanda Kimballiana and cœrulea, Lycaste leucantha, Maxillaria nigrescens, Masdevallia macrura, Læliocattleya Herscentiæ (L. Boothiana × C. Dowiana aurea), a pretty rosy flower with darker lip, Phalænopsis Esmeralda, a good Cirrhopetalum ornatissimum, Miltonia vexillaria Leopoldii, and a number of good Cypripediums, Læliocattleyas and Oncidiums, the latter including O. Lanceanum, the rare and pretty O. spilopterum, O. trulliferum, and some good O. varicosum and oblongatum behind (Silver Flora Medal).

Messrs. Sander & Sons, St. Albans, staged a very fine group, including some brilliant forms of Cattleya Fabia, among which C. F. alba and the brilliantly-coloured C. F. ignescens were conspicuous, C. fulvescens, C. Thayeriana, C. conspicua, Odontoglossum grande, O. Ashworthianum (Edwardii × Ossulstonii), a fine Odontioda chelseiensis, Spathoglottis Fortunei, a well-flowered Saccolabium acutifolium, two plants of Acineta chrysantha, Cycnoches stelliferum with a very long raceme, Catasetum macrocarpum, Cypripedium Antigone, C. Kubele grandis, C. Franconia, Brassocattleya Hyeæ, Læliocattleya luminosa, L.-c. Wrigleyana (L. anceps × C. Bowringiana), and other good things (Silver Flora Medal).

Messrs. J. & A. A. McBean, Cooksbridge, sent a pretty little group, including a fine Odontioda Charlesworthii, raised in the establishment, good forms of Dendrobium Phalænopsis, very fine forms of D. Dearei, Cattleya Dowiana aurea and C. Warscewiczii, C. Fabia, Vanda cœrulea, several good Cypripedium Fairrieanum, C. Niobe, C. insigne Harefield Hall

var., Cymbidium Wiganianum, and a very fine Læliocattleya (See Awards).

M. Ch. Maron, Brunoy, France, sent two very fine specimens of Cattleya Fabia Vigeriana, C. Fabia alba, a beautiful form with white petals, Brassocattleya Rhadames, parentage unknown, B.-c. Maroniæ, Brassocatlælia Baucis, and two other interesting Brassocatlælias, derived respectively from Læliocattleya Fournieri × Brassocattleya Leemanniæ, and from L.-c. Truffautiana × B.-c. Leemanniæ (Bronze Banksian Medal).

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent the beautiful Brassocattleya Veitchii Queen Alexandra, and a noble specimen of Cattleya labiata, bearing forty-six flowers.

FIRST-CLASS CERTIFICATES.

LÆLIOCATTLEYA LUMINOSA AUREA (L. tenebrosa Walton Grange var. × C. Dowiana aurea.)—A very beautiful form, having primrose-yellow sepals and petals, and a rich claret-purple lip, with a trace of yellow veining on the outer side of the side lobes. Exhibited by Lt.-Col. Sir George L. Holford, K.C.V.O.

LÆLIOCATTLEYA ST.-GOTHARD MCBEAN'S VAR. (L.c. Gottoiana × C. Hardyana).—A remarkably large and handsome form, having very broad flat rosy-lilac sepals and petals, and a very open ruby-crimson lip, with a crisped margin, and a light-coloured disc. Exhibited by Messrs. J. & A. A. McBean.

AWARD OF MERIT.

VANDA KIMBALLIANA ALBA.—A beautiful albino of the species, the flowers being clear white, with a light yellow disc to the lip. Exhibited by Messrs. Mansell & Hatcher, Rawdon, Yorks.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

At the meeting held at the Coal Exchange, Manchester, on Thursday, September 28th, 1911, the members of Committee present were:—Rev. J. Crombleholme (in the Chair), R. Ashworth, J. Bamber, C. Parker, H. Thorp, Z. A. Ward, J. Cypher, J. C. Cowan, J. Evans, W. Holmes, A. J. Keeling, D. McLeod, and H. Arthur (secretary).

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), staged a magnificent group of plants, containing batches of Odontoglossum grande, Vanda cœrulea, Dendrobium Phalænopsis Schrœderianum, Cypripedium Fairrieanum, Maudiæ and Boltonii, Epidendrum vitellinum majus, Cattleyas of the Iris section, and Cymbidium Tracyanum. Over 150 plants were exhibited, and **a Gold Medal was unanimously granted.**

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), also staged a fine group, a feature being a fine collection of Dendrobium Phalænopsis Schrœderianum (which gained for the gardener a Cultural Commendation and Bronze Medal), several fine forms of Cattleyas aurea and Iris, Cypri-

pediums Boltonii, Rossetti, Niobe superbum, gigas Corndean Hall var., Shogun, and others, a Silver-gilt Medal being awarded for the exhibit.

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), was also granted a Silver-gilt Medal for an effective group of Cattleyas and Cypripediums, a very fine display of Cypripedium insigne Sanderæ being a feature. C. insigne varieties Laura Kimball, Bohnhofianum, and Perfection were also good, with C. Maudiæ magnificum, Hitchinsiæ and Zethus, and Cattleyas Adula Ward's var., Germania and Iona.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was awarded a Silver Medal for a group composed of some fine forms of Cattleyas Armstrongiæ, Mantinii nobilior, Mrs. Pitt, highburiensis var. Mary McCartney, Mary Measures, Cypripediums Lord Derby, Donald McCartney, Maudiæ, and a plant of Cycnoches chlorochilon.

W. J. Hargreaves, Esq., Burnley, staged a group of well-grown plants, to which a Silver Medal was granted. It contained Cattleyas suavior, Mantinii nobilior, Parthenia Measures' var., and forms of C. labiata, Oncidium varicosum Rogersii, Forbesii, and a few Cypripediums.

The Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), staged a nice group of Cypripediums, to which a Silver Medal was awarded, the most noticeable being C. insigne Sanderæ, triumphans, Maudiæ, callo-Rothschildianum, Lord Ossulston var. Cherubicum, Transvaal, bellatulum, and Fairrieanum.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), was awarded a Bronze Medal for a group, including several Læliocattleyas, Odontoglossum crispum and hybrid, Lycaste Skinneri alba, Cypripedium triumphans, and others.

R. Le Doux, Esq., West Derby (gr. Mr. Fletcher), staged Odonto-glossum grande aureum Charlesworth's var., Cattleya labiata alba var. Madame R. Le Doux, C. Empress Frederick var. marlfieldensis, and C. exquisita.

Messrs. J. Cypher & Sons, Cheltenham, were granted a Silver Medal for a nice mixed group, including Cattleyas Peetersii and Mantinii, Cypri-pediums Morganiæ, Niobe superbum, Leeanum, triumphans, Maudiæ, Vandas cœrulea and Kimballiana, and Lælia præstans.

Messrs. Sander & Sons, St. Albans, staged a nice group, to which a Silver Medal was awarded, consisting principally of Cattleyas Berthe Fournier, Mantinii nobilior, Fabia, Dido, Atalanta Sander's var., Maronii, Iago, and Læliocattleya Hon. Mrs. Astor.

Messrs. Hassall & Co., Southgate, were awarded a Silver Medal for a nice collection of Cattleyas and hybrids, C. Thurgoodiana, Minucia, and labiata in variety, making a pleasing display.

Mr. E. V. Low, Vale Bridge, Haywards Heath, staged Cattleya Thur-

goodiana Wivelsfield var., Cypripedium Germaine Opoix, and C. Little Gem.

Messrs. A. J. Keeling & Sons, Bradford, staged Læliocattleya Lily (C. labiata × L.-c. Dominiana), Oncidium Forbesii splendens, Cypripedium westgatense (insigne Sanderæ × i. Laura Kimball), and Dendrobium Phalænopsis Black Beauty.

The Liverpool Orchid Co. staged Læliocattleya Eva Morton's var.

FIRST-CLASS CERTIFICATES.

Odontoglossum grande aureum Charlesworth's var., from R. Le Doux, Esq., a most distinct variety, the lip being white.

Cypripedium Shogun, from W. R. Lee, Esq. (gr. Mr. Woodhouse), certainly one of the finest Cypripediums yet seen, a large well-marked flower, and almost round.

AWARDS OF MERIT.

Cattleya labiata alba Madame R. Le Doux, from R. Le Doux, Esq., a nice form of the type; Empress Frederick var. marlfieldiensis, a bold well-formed flower; and C. exquisita, a fine form of unknown parentage; all from the same exhibitor.

Cattleya suavior (intermedia alba × Prince Edward), from W. J. Hargreaves, Esq., Burnley; a very sweet flower of the type.

Cattleya highburyensis var. Mary McCartney, from J. McCartney, Esq.; a very fine form.

Cattleya Adula Ward's var., from Z. A. Ward, Esq., and Cypripedium Zethus, both excellent varieties from the same exhibitor.

Dendrobium Phalænopsis Schrœderianum var. Miranda, from W. R. Lee, Esq., a beautiful form, and well marked, the colours running in lines.

Cypripedium Lord Ossulston var. Cherubicum, from the Rev. J. Crombleholme, a brilliant coloured variety, quite distinct from the original.

Læliocattleya Lily (C. labiata × L.-c. Dominiana), from A. J. Keeling & Sons; Oncidium Forbesii splendens, a fine flower; and Cypripedium westgatense* (insigne Sanderæ × i. Laura Kimball), a distinct variety, all from the same exhibitor.

Cattleya Ena Morton's var. (bicolor × Massaiana), from the Liverpool Orchid Co., a nice form, of good colour.

Cattleya Thurgoodiana Wivelsfield var., from Mr. E. V. Low, a massive and well-balanced flower.

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* CYPRIPEDIUM WESTGATENSE.—We record the certificated name, but would point out that the plant is only another yellow variety of insigne. Further, the Society has already given a First-class Certificate to a plant with the same parentage, under the name of C. insigne Sander-Kimball E. Ashworth's variety (See *O.R.*, pp. 27, 28, 64).

YELLOW VARIETIES OF PAPHIOPEDILUM INSIGNE.

Now that the yellow varieties of Paphiopedilum insigne—already very numerous—are being increased by hybridisation, it may be interesting to

Fig. 39. P. I. SANDERÆ. Fig. 41. P. I. YOUNGIANUM.
P. I. SANDERIANUM, KIMBALL. Fig. 42. P. I. WM. MILLIE DOW.
Fig. 40. P. I. LAURA KIMBALL.

Fig. 37. P. I. ERNESTII.
Fig. 38. P. I. LAURA KIMBALL.

reproduce a photograph of a few of the standard forms, the group being one which was exhibited by J. E. Rothwell, Esq., at a meeting of the Massachusetts Horticultural Society in June, 1900, and to which a Silver Medal was awarded. The central plant (fig. 39), bearing three flowers, is the beautiful P. i. Sanderæ, still we believe unsurpassed, unless it be by some of the seedlings raised from it by self-fertilisation. To the left and below it, with only a single flower, is P. i. Laura Kimball (fig. 38), which is closely similar in general character. These two were the parents of the yellow seedlings mentioned on page 344, and with respect to the one raised by Messrs. Keeling & Sons we are informed that a large number of the seedlings have reverted to ordinary coloured forms, though perhaps 25 per cent. are yellow. Returning to our illustration, we note that the plant on the extreme left, bearing three flowers (fig. 37), is P. i. Ernestii, in which the blotches on the dorsal sepal persist, though they are very pale in colour. To the right of Sanderæ, and near the bottom of the picture, is P. i. Sanderianum (fig. 40), in which the flower is uniform yellow throughout, except for a few brown hairs on the base of the petals. This variety has the valuable quality of giving true albinos when hybridised—at all events when united with P. × Maudiæ it gave the beautiful greenish yellow P. Rossetti, all the seedlings of which proved true, while those from P. i. Sanderæ and P. Maudiæ all reverted to coloured forms. To the right again we have P. i. Youngianum (fig. 41), and on the extreme right P. i. Wm. Millie Dow, a very fine form, in which the spots on the dorsal sepal are almost as distinct as in P. i. Ernestii. It is still possible to see the spots in the illustration with a lens, though they are much more distinct in the original photograph.

Another case of reversion when yellow varieties of P. insigne are crossed was recorded at page 336 of our sixteenth volume. This was P. i. Dorothy crossed with P. i. Sanderæ, all the seedlings reverting to ordinary green forms, with more or less brown spotting on the dorsal sepal. No yellow forms were recorded.

Lastly, we may recall the case of P. i. Sanderæ self-fertilised, in the establishment of Messrs. James Veitch & Sons (*O. R.*, xviii. p. 350), where, though all the seedlings were yellow, they varied considerably in the size and number of the dark dots on the dorsal sepal, while in one they were totally absent, the flower thus being comparable with P. i. Gladys, which is said to show no trace of brown anywhere. P. i. Gladys we have been informed came out of a lot of imported plants, but that is all that we know of its history.

We shall be glad to hear of any other experiments that may have been made, and hope to see flowers of any other interesting seedling forms, as the subject is of the greatest interest.

ORCHIDS IN SEASON.

Two very handsome hybrids are sent by Mr. C. F. Karthaus, Potsdam, Germany, in connection with the article on Orchid Hybridisation which appeared at page 195. The first is Læliocattleya St.-Gothard (L.-c. Gottoiana × C. Hardyana), and is a flower of large size, with very broad rosy purple sepals and petals, and a broad open crimson purple lip, with some yellow in the throat. It is descended from Lælia tenebrosa, Cattleya Warneri, C. Warscewiczii, and C. Dowiana aurea, and one would naturally expect a fine hybrid from such a combination. The inflorescence bore three very large flowers. The other is Cattleya Freya (C. Mantinii × C. Dowiana aurea), a very handsome thing, most like a large and much improved C. Mantinii. It was described at page 348 of our sixteenth volume, and we believe that the one received as C. The Canon (*O. R.*, xviii. p. 319) is a form of the same. Both the flowers sent are excellent in shape, and of the richest possible colour. Mr. R. Blossfeld, Manager to Mr. Karthaus, remarks: "Of course we have used only the finest parents for crossing, and no wonder we see such fine things."

A prettily-marked form of Odontoglossum Thompsonianum is sent from the collection of G. Short, Esq., Liscard, Cheshire. A flower of Odontoglossum Edwardii was fertilised with an ordinary O. crispum, in April, 1906, and the seeds were sown in May of the following year. In August seven seeds germinated, of which Mr. Short succeeded in rearing six, and one has now produced a spike of thirty-two flowers. Mr. Short remarks that it is his first attempt at hybridising, and as he has only a small Cool house of about 450 plants he must be congratulated on his success. It is a curious coincidence that O. Thompsonianum was originally raised at Liscard, in the collection of D. B. Rappart, Esq.

A few good flowers of Oncidium tigrinum are sent from the collection of C. Alwyn Harrison, Esq., Lyndhurst, Watford, to show how effective it is for autumn-flowering. The blackish brown blotches on the sepals and petals contrast very effectively with the bright yellow lip. It is one of the most useful Oncidiums for the Amateur's collection. A good flower of Vanda cœrulea shows that the species can be well grown in a small house. A flower of Paphiopedilum Eleanor (insigne × Zenobia) is also sent. It is from a seedling flowering for the first time, and bears a certain resemblance to P. Ashburtoniæ (barbatum × insigne), which is explained by the fact that P. Zenobia was derived from P. callosum × Ashburtoniæ. An analysis of parentage shows insigne $\frac{3}{8}$, callosum $\frac{1}{4}$, and barbatum $\frac{1}{8}$, and as callosum and barbatum are closely allied, a very similar hybrid to P. Ashburtoniæ would be expected. The cross was made in 1906, and the seed was sown in the spring of the following year.

The two-flowered spike of a handsome seedling Odontoglossum is sent from the collection of W. Thompson, Esq., Walton Grange, Stone, by Mr. W. Stevens, who remarks that it is a small plant derived from O. Ossulstonii × eximium, and that it resembles O. illustrissimum (Lambeauianum × armainvillierense) very closely, both in shape and colour. The sepals and petals are rich red-brown, with yellow tips and a few similar markings below, while the broadly pandurate lip is white in front, and rich red-purple on the basal half, with some yellow on the very spiny crest. It should develop into a very handsome thing.

HYBRIDIST.

CATTLEYA ALWYNII.—This is a very handsome Cattleya from the collection of C. Alwyn Harrison, Esq., Lyndhurst, Watford, and was raised in the collection from C. Adonis (Enid) × amabilis. The seed was sown in May, 1906, and the plant is now flowering for the first time, bearing a spike of five flowers. The original plants all belong to the labiata group, and the composition of the hybrid may be described as C. Warscewiczii ½, and C. labiata and C. Mossiæ ¼ each. The flower is large and of excellent shape, the sepals and petals being bright rose purple, and the lip very dark purple crimson, with two yellow blotches in the throat. It is a robust grower, and a plant of great promise.

A flower of the handsome Læliocattleya Mrs. W. Hopkins (L.-c. Haroldiana magnifica × Lælia Iona nigricans) is sent from the collection of Francis Wellesley, Esq., Westfield Common, Woking. An analysis of parentage shows Lælia tenebrosa ½ (this coming in through both parents), L. Dayana ¼, Cattleya Dowiana aurea and C. Warscewiczii ⅛ each. This explains a marked resemblance to L.-c. luminosa in colour, but the segments are relatively shorter and broader, and of a coppery-buff shade, while the lip is intense blackish purple almost throughout, with a rosy lilac blotch near the apex. It is said to be a tiny plant, flowering in the seedling house, and should develop into a really fine thing. It was recorded at page 221 of our last volume.

LÆLIOCATTLEYA HARRISONIÆ.—A pretty little hybrid from the collection of C. Alwyn Harrison, Esq., Lyndhurst, Watford, the parentage being Lælia xanthina × Cattleya Loddigesii. Mr. Harrison remarks that it was mentioned at p. 25 of our January issue under the name of L.-c. Ethelreda Harrison, but that the name and parentage should be amended as above. This is the second plant of the batch to flower. In growth the plant resembles the Cattleya parent, and the flower is also very similar in shape, but the sepals and petals are cream-white, and the disc of the prettily crisped lip light yellow.

LÆLIOCATTLEYA CARINA. — A pretty little hybrid from Cattleya

Loddigesii × Læliocattleya Issy, raised in the collection of W. Evans, Esq., Knighton Lodge, Leicester (gr. Mr. T. Cook). It is most like the Cattleya parent in shape, having a markedly three-lobed crisped lip, but is considerably darker in colour. It should develop into a good thing.

CATTLEYA SORORIA.

ANOTHER natural hybrid Cattleya must now be added to the list of those whose origin has been proved experimentally. Mr. T. Cook, gardener to W. Evans, Esq., Knighton Lodge, Leicester, sends a flower raised in the collection from C. Harrisoniana × bicolor, and asks for the name. He remarks: "We have raised six plants of it, two of which have just flowered. They are only small at present." This is very interesting, for the flower is identical with the natural hybrid C. sororia, Rchb. f. (*Gard. Chron.*, 1887, i. p. 40), whose history has already been given (*O. R.*, ix. p. 267). The flower agrees well with the one figured in the *Orchid Album* (vii. t. 307) which we have regarded as derived from C. bicolor and C. Harrisoniana. This experiment effectually disposes of Reichenbach's suggestion that C. Walkeriana and C. guttata were the parents. In comparing the flower sent with C. sororia, Rchb. f., we are not overlooking our own suggestion that C. Wilsoniana, Rchb. f. (*Gard. Chron.*, 1877, ii. p. 72) may be an earlier name for the same hybrid, but in this case we are dealing with certainties, and the origin of C. Wilsoniana is not quite that. We have given its history (*O. R.*, ix. p. 266), and have appealed for further information in vain. Perhaps we shall know when the Reichenbachian Herbarium is opened. It came home with C. bicolor, and Reichenbach thought it should be regarded as a natural hybrid between it and perhaps C. intermedia. On the other hand, he said it had beautiful deep purple sepals and petals, which would scarcely come from the combination suggested. There is no mention of C. Harrisoniana, and in the case of C. sororia that species was only mentioned to be dismissed. The whole story is contradictory, and we must congratulate Mr. Evans and his gardener in having placed one phase of the question beyond dispute. Will no one give us the cross between C. bicolor and C. intermédia?

R. A. R.

CIRRHOPETALUM ROTHSCHILDIANUM.

A PLANT of this handsome Cirrhopetalum has just flowered with Messrs. Sander & Sons, St. Albans, an inflorescence sent to Kew for determination proving identical with the one originally described. Its origin is not stated. C. Rothschildianum was described and figured in 1895 (O'Brien in *Gard. Chron.*, 1895, ii. pp. 608, 609, fig. 102), from a plant which received a First-class Certificate from the R.H.S. in October of that year. It was

described as the handsomest species in the genus. It is said to have been received with various other things from an explorer in the hills beyond Darjeeling, and to have arrived in such bad condition that it took a long time to recover. It is allied to C. Collettii, Hemsl., but differs in having larger flowers, in the dorsal sepal and petals having linear, not foliaceous appendages, and in the base of the lateral sepals being covered with papillose hairs, while the tails are also longer. It is a very striking and handsome species. R. A. R.

ORCHID NOTES AND NEWS.

Two meetings of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, during November, on the 7th and 21st, when the Orchid Committee will meet at the usual hour, 12 o'clock noon. The following meeting is fixed for December 5th.

The Manchester and North of England Orchid Society will hold meetings at the Coal Exchange, Manchester, on November 2nd, 16th, and 30th. The Committee meets at noon, and the exhibits are open to inspection to members and the public from 1 to 4 p.m.

We have now received the list of Competitions for Amateurs for the current session, which it will be seen from the following particulars are both numerous and interesting.

"ROBSON'S" CUP (Value 100 Guineas).

For Odontoglossums, to include species, varieties, and hybrids, also Miltonia vexillaria and M. Roezlii, with all their varieties and hybrids, and all the Odontiodas, *i.e.*, any form of Odontoglossum crossed with Cochlioda or Mesospinidium. A prize of five guineas will be awarded to the gardener of the winner. Presented by Mr. John Robson, Altrincham.

CONDITIONS OF COMPETITION.—To be won by the Amateur who gains the largest number of points in two years, dating from June 23rd, 1910, such points to be awarded according to the rules of the Society obtaining in the Session 1910-1911. No points from confirmed awards to count in this.

In all the following Competitions, points for Confirmed Awards will be reckoned.

"W. R. LEE'S" SILVER TROPHY.

To be awarded to the Amateur employing *more* than one gardener who gains the highest number of points during the Session for groups and individual plants. A prize of three guineas will be given to the gardener of the winner.

"W. R. LEE'S" GOLD MEDAL.

To be awarded to the Amateur who employs not more than one gardener, who gains the highest number of points during the Session, for

groups and individual plants. A prize of three guineas will be given to the gardener of the winner.

The above prizes presented by W. R. Lee, Esq., Heywood.

"CYPHER'S" GOLD MEDAL

To be awarded to the Amateur who gains the most points during the Session, and for general excellence and arrangement of exhibits. Presented by Messrs. Cypher & Son, Cheltenham.

"SANDER" PRIZES.

A first prize of four guineas, second prize of two guineas, and third prize of one guinea, to the gardener exhibiting the greatest number of groups during the Session. Presented by Messrs. Sander & Sons, St. Albans.

"ED. V. LOW'S" SILVER VASE.

To be awarded to the Amateur who gains the highest number of points for white Cattleyas, Lælias and their hybrids, *i.e.*, white sepals and petals. A prize of two guineas will be given to the gardener of the winner. Presented by Mr. Ed. V. Low, Haywards Heath.

"STUART LOW'S" PRIZES.

Plants value five guineas to the Amateur who gains the highest number of points for Cattleyas, Lælias, hybrids of Cattleyas and Lælias, Brasso-cattleyas and Brassolælias during the Session. A prize of two guineas will be given to the gardener of the winner. Presented by Messrs. Stuart Low & Co., Enfield.

"SOCIETY'S" PRIZES.

The Society offers a Gold Medal, Silver-gilt Medal, and Silver Medal for the Amateur who (not engaged in other competitions) gains respectively the highest, second highest, and third highest number of points from July 20th, 1911, to May 30th, 1912.

Similar awards, under similar conditions, will be made to Amateurs who grow Orchids without the aid of a gardener; a minimum of 25 points to qualify for the Gold Medal.

The usual medals will be awarded for occasional groups where not engaged in other competitions.

RULES FOR COMPETITORS.

1. A group to consist of not less than twelve plants.

2. In all competitions (except Robson's Cup) points gained for *confirmed awards* for plants will be credited to the exhibitor, and the points gained from the commencement of the Session will be reckoned.

3. Sectional groups put up for the various competitions and being awarded points for same. may *not* be entered for the Society's medal awards. (Competitors for Messrs. Cypher's Gold Medal are exempt from this rule).

4. Competitors, or their gardeners, must sign a declaration of the competitions in which they wish to take part, and hand same to Secretary.

GHENT QUINQUENNIAL.—We have received the provisional programme and schedule of the 17th International Horticultural Exhibition to be held at Ghent at the end of April, 1913, under the patronage of His Majesty the King of the Belgians. Classes 22 to 106 are devoted to Orchids, and should produce a very fine display.

ORCHID PORTRAITS.

CATTLEYA MRS. FREDERICK SASSOON.—*Gard. Mag.*, 1911, p. 741, with fig.

CYPRIPEDIUM KING GEORGE.—*Journ Hort.*, 1911, ii. p. 387, with fig.

CYPRIPEDIUM LUCIFER.—*Gard. Chron.*, 1911, ii. p. 293, fig. 131.

CYPRIPEDIUM ROYAL GEORGE.—*Gard. Chron.*, 1911, ii. pp. 281, 282, fig. 124.

LÆLIOCATTLEYA GERTRUDE.—*Journ. Hort.*, 1911, ii. p. 363, with fig.

LISSOCHILUS STYLITES, Rchb. f.—*Bot. Mag.*, t. 8397.

HOULLETIA WALLISII.—*Journ. Hort.*, 1911, ii. p. 315, with fig.

ODONTOGLOSSUM HARWOODII SHRUBBERY VAR.—*Journ. Hort.*, 1911, ii. p. 339, with fig.

ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work.*]

W.C.S.—The flower sent, raised from Cattleya Leopoldii × Mendelii, is a very good form of C. Harrisii. We believe that the name under which you purchased it has never been published, and we agree that it should be cancelled. The Cypripedium Schusterianum × Rothschildianum sent is, as you suggest, not of much value, and scarcely worth naming, unless it improves or until a better form appears. Dendrobium sanguinolentum album is a rare and interesting plant.

T.L.M.—Many thanks. We should much like the proposed note when you have time to do it justice.

W.B., Hamburg.—You are right in supposing this Venezuelan Cattleya to be a light form of C. Lueddemanniana, Rchb. f. The flower is rather small, probably because the plant is not yet well established.

C.E.R., Shanghai.—Cœlogyne flexuosa, Rolfe.

R.K.—Dendrobium moschatum is an evergreen species, and must not be rested in the same way as D. Wardianum. It should be grown under the same conditions as D. thyrsiflorum and D. chrysanthum.

W.G.—1, Epidendrum glumaceum, Lindl.; 2, may be a form of Paphiopedilum Ashburtoniæ, for both the purple of P. barbatum and the spots of P. insigne are much in evidence; 3, looks like a poor form of P. insigne.

CATALOGUES RECEIVED.—Priced Catalogue of Orchids, from Messrs. Hassall & Co., Chase Side, Southgate, containing a good selection of showy species and hybrids. Price list of Cattleyas, species and hybrids, from Mr. C. F. Karthaus, Potsdam, Germany.

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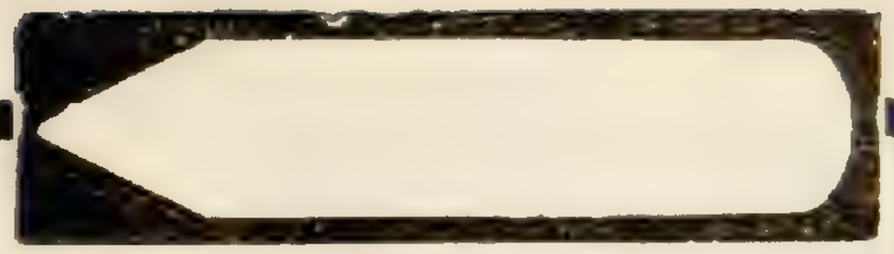

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VOL. XIX., No. 228. THE DECEMBER, 1911.

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An Illustrated Monthly Journal.

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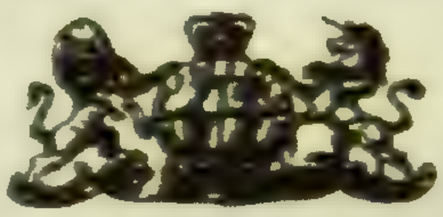
ROYAL WARRANT  HOLDERS TO THE KING.

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THE ORCHID REVIEW.

VOL. XIX.] *DECEMBER*, 1911. [No. 228.

OUR NOTE BOOK.

AT the R.H.S. meeting held on November 7th last another remarkable generic hybrid appeared, being exhibited by J. Gurney Fowler, Esq., South Woodford, under the name of Odontocidium Fowlerianum. It was derived from Odontoglossum cirrhosum crossed with the pollen of Oncidium Forbesii, and well combines the characters of its very diverse parents. It bore a spike of six flowers, the sepals and petals being oblong-lanceolate, barred with red-brown on a light yellow ground, and the lip broadly pandurate, and bright yellow with some chestnut markings in front. A Certificate of Appreciation was awarded. It has evidently not yet reached its full development, for both parents have a paniculate inflorescence, and it will be interesting to see what it is like when the plant becomes strong. Seedlings were recorded two years ago (*O.R.*, xvii., p. 207), and we shall now hope to see this Oncidium united with the large-flowered Odontoglossums of the crispum set, for O. cirrhosum, though an excellent parent, has very narrow segments.

The other day we picked up a number of the *Journal de la Société Nationale d'Horticulture de France*, and observed that at a recent meeting Certificates of Merit were given to the four following Orchids: Cattleya Pluviôse (Lueddemanniana × aurea), C. Liberté (labiata × gigas), C. Austerlitz (Trianæ × aurea), and Cypripedium Jeanne-Hélène (insigne Sanderæ × Lawrenceanum Hyeanum). All are primary hybrids, and all have long been known under other names. The first was described as long as 1884, under the name of Cattleya Kienastiana, of which C. Pluviôse can at best be only a variety, while the others bear the same relation to Cattleya amabilis, C. Raphaeliæ, and Cypripedium Eucharis respectively. We had hoped that the publication of the *Orchid Stud-Book* and the Rules of Horticultural Nomenclature adopted at Brussels would have imposed some check on the manufacture of synonyms, for it is now generally agreed that all hybrids obtained from successive crossings of the same two species shall be regarded as forms of the same. Varietal names can be added to any that are distinct enough.

Apart from nomenclature, the fourth plant mentioned above is exceptionally interesting. The flower is said to be pale yellow, with the green lines of C. Lawrenceanum Hyeanum, but rather lighter in colour. Thus the albinism of both parents is present, though the earlier hybrid between the same two albino varieties reverted almost to an ordinary coloured form of C.—or Paphiopedilum—Eucharis (*O.R.*, xvi. p. 128). If this new record is correct it removes from P. insigne Sanderæ the reproach of always yielding coloured hybrids when fertilised with an albino form of another species. It also throws further light on the theory of complimentary colour factors, which has previously been discussed (*O.R.*, xvi. pp. 102, 142, 228). and again shows that the mysterious factors "C" and "P," which have been invoked to account for the phenomena or reversion, are purely hypothetical.

We should like to know the history of this particular cross; whether there were other seedlings, and if so whether they were albinos, or if any of them reverted to coloured forms. The case at present seems anomalous, as did Mr. Cookson's Cypripedium Lawrenceanum Hyeanum, which "when selfed gave 14 albinos, but in addition *one coloured plant*." This has been held as "unaccountable" from the Mendelian standpoint (see *O.R.* xvii. p. 261), but it is not by any means unique, and all the albinos of coloured species must at some time have originated in the same way.

CALANTHES NOT FLOWERING.

AN esteemed correspondent is troubled with the deciduous Calanthes failing to flower, and a fine bulb has been sent to see if we can suggest a cause. The plants are said to form magnificent bulbs and fine growth, and do well until nearing the blooming period. when they suddenly begin to go black and most of the spikes fail to develop. The house is span-roofed, and the situation much exposed, with prevalent high winds, which keeps the temperature low. The latter is given as 65° max., 55° min., and water has been given weekly for the last month. On splitting the bulb sent it appears to be sound except just at the apex, where there is a little black discoloration, but it seems rather overcharged with water. A spike was pushing at the base about an inch long, and on splitting this down we found that the growing point and base of the covering sheaths were black. We suggest too much water and probably too low a temperature during the resting stage as the probable cause of failure, but shall be glad to have the opinion of our readers.

"MENDELIAN METHODS, by which is meant the analytical observation of specific characters in the individuals and their occurence in the immediate offspring."—Salamann in *Journal of Genetics*, i. p. 273.

A GROUP OF DENDROBIUM PHALÆNOPSIS.

(See *Frontispiece*).

The frontispiece to the present volume consists of a finely-grown group of the beautiful Dendrobium Phalænopsis from the collection of O. O. Wrigley, Esq., Bridge Hall, Bury. Mr. Rogers remarks that "the plants have been in the collection since 1899, and have done better this year than ever previously." Possibly the unusually bright summer may have had something to do with this. It will be noticed that the plants are in comparatively small pots, and in some cases are rooting freely over the sides. When thus grown the species forms a picture of loveliness. The group much recalls the one exhibited at the R.H.S. meeting held on November 7th last, from the collection of G. F. Moore, Esq., Chardwar, Bourton-on-the-Water, to which a Silver Lindley Medal was awarded. The history of the species was given at pp. 146, 147 of our sixteenth volume, and that of its allies two years later (xviii., p. 206—208).

ORCHIDS AT ST. ALBANS.

IT is now some time since an article appeared on the establishment of Messrs. Sander & Sons, and a few notes taken on the occasion of a recent visit to St. Albans may be of interest to the readers of the *Orchid Review*.

Entering the first house in the company of Mr. Gott, we found it entirely devoted to the raising of Cattleyas and Læliocattleyas, the plants ranging in size from the tiniest green globules to sturdy seedlings in thimble pots. There is an endless variety of crosses, and the house contains over 100,000 plants. The next house visited was almost entirely devoted to seedling Cypripediums, about 10,000 being accommodated here. At one end a large and healthy batch of Angræcum sesquipedale was pointed out, also the distinct Cypripedium concolor Sanderæ. In the long corridor were numerous Dendrobium Dalhousieanum, chrysanthum, and crassinode, showing well for bloom, and others.

A large house was well filled with seedling Dendrobiums, whilst in another was noticed a nice batch of Chysis bractescens, the small-flowered Lanium Berkeleyi, and Chondrorhyncha Chestertonii. Then follow six houses filled with Læliocattleyas of flowering size. Amongst those in bloom may be mentioned L.-c. Haroldiana, Pallas, La Belle, Black Prince, of wonderful colouring, and Hon. Mrs. Astor. In one house there was a gorgeous display of Cattleya Fabia, all most highly coloured, with some good forms of C. Peetersii.

Two Cypripedium houses were filled with the choicest hybrids, of which only a few can be noted—C. Actæus nivalis, Actæus Undine, an albino form, Thalia var. Mrs. F. Wellesley, Alabaster, Leander superbum, Minos

Youngii, Maudiæ magnificum, Kubele grandis, gigas Corndean var., batches of the large C. Franconia, and C. triumphans Jules Hye's variety. Six more Cattleya houses follow, and here were pointed out in flower C. Portia and C. labiata alba, also Læliocattleya luminosa and Binotii. There was also a house full of C. Dowiana aurea, many being in flower, and all excellent varieties.

A large Cool house came next, and here were noticed Odontoglossum amabile, Groganiæ, Dixoniæ, and maculatum, Odontioda Charlesworthii and ignea (C. Nœtzliana × O. Lindenii), the latter bearing a long spike of most beautiful scarlet flowers. A good Masdevallia Chimæra was in bloom, with many Epidendrum vitellinum, and the rare Oncidium cruciatum. In another house was a large batch of the beautiful Cypripedium insigne Sanderæ and C. i. Harefield Hall var. A nice batch of the yellow Acineta chrysantha was seen in another house, together with many large specimen Lælia anceps.

Some more Cattleya houses follow, and amongst many plants in bloom may be mentioned Læliocattleya Zephyra, Felicity, Endymion, La France, Ella, Harrisoniæ (xanthina × Harrisoniana), and some new hybrids of great promise, including Cattleya bicolor × Empress Frederick, C. Whitei × Mendelii, C. Dido (Bowringiana × Iris), and C. Bowringiana × L.-c. bletchleyensis. Here also were Vanda suavis, the curious Catasetum macrocarpum, the swan-like Cycnoches chlorochilon, and a batch of Renanthera Imschootiana, comprising several hundred plants. A quantity of Vanda teres and Phaius were observed in other houses.

Messrs. Sander have a unique collection of botanical Orchids, and amongst them we observed the pretty Cirrhopetalum ornatissimum, with a large umbel of flowers, Houlletia Sanderi, Cœlogyne speciosa, Phalænopsis Esmeralda, Brassia longissima, Dendrochilum glumaceum, latifolium, and Cobbianum. We were pleased to see a plant of the rare Lissochilus Krebsii, Cœlogyne ocellata, and what is probably the darkest form of Cypripedium Fairrieanum in cultivation, Measures' variety.

The above are only a fraction of the good things seen in flower, but these notes are becoming lengthy. The collection of Cattleyas and Læliocattleyas grown at St. Albans is extensive, and contains almost every cross yet raised, and judging by the vast number of new hybrids raised by the firm, the class will become as large as that of the Cypripedium. The houses are scrupulously clean, and every plant in the most robust health and vigour, showing that great care and attention are given to all the many genera.

Besides their large establishment at St. Albans, Messrs. Sander have extensive glass houses at Bruges, Belgium, where Vanda cœrulea and the raising of the finest Odontoglossum hybrids claim special attention.

In conclusion, we would add that nowhere has it been our good fortune to see such an endless variety of Orchids, whilst the ease with which seedlings of many genera are raised, testifies to the excellent culture they receive at the hands of Mr. Gott and his assistants.

C. ALWYN HARRISON.

OCTOMERIA CRASSIFOLIA.

AT the R.H.S. meeting held on October 24th last, a large specimen Octomeria, covered with flowers, was exhibited from the collection of Sir Trevor Lawrence, Bart., Burford, Dorking, which also appeared before the Scientific Committee, as there was a doubt about its correct name (see pp. 340, 375. We believe it to be the Brazilian Octomeria crassifolia, described by Lindley in 1836 (*Hook. Comp. Bot. Mag.*, ii. p. 354), from a plant which flowered with Messrs. Loddiges, of Hackney, and which they had obtained from Rio de Janeiro. The flowers were described as pale yellow, with a very small double purple spot on the lip. A dried specimen and coloured drawing of the lip are preserved in the Lindley Herbarium. We also believe it to be the plant figured by Bauer as Octomeria graminifolia (*Ill. Orch. Pl.*, Gen. t. 4, flg. A.) from a drawing made by Bauer in 1821, for the details of the flower agree admirably. It is not, however, the original O. graminifolia, R. Br. (*Ait. Hort. Kew.*, ed. 2, v. p. 211). This species was based upon Dendrobium graminifolium, Willd. (*Sp. Pl.*, iv. p. 135), and that again on Epidendrum graminifolium, L. (*Sp. Pl.* ed. 2, p. 1353), under which Linnæus expressly cites Heleborine graminea repens biflora, *Plum. Pl. Amer.*, ii. p. 171, t. 176, fig. 1. O. graminifolia was afterwards correctly depicted in the *Botanical Magazine* (t. 2764). It is a West Indian species, with markedly climbing habit. This plant was rather a puzzle to Lindley, for when describing O. Baueri (*Gen. and Sp. Orch.*, p. 10) he remarked: "This species and the foregoing O. graminifolia so closely resemble each other in habit, foliage and inflorescence that it is in vain to seek to which of them the specific name graminifolia may with the greatest justice be applied. . . . I have therefore retained the name for the species figured by Dr. Hooker." This is, fortunately, the correct plant, and identical with the one originally figured by Plumier. He also cites a picture made by Bauer at Kew in March, 1817, probably the one afterwards published (*Bauer Ill. Orch. Pl.*, Gen. t. 4, fig. B.) This species has light yellow flowers, without a purple blotch on the lip, and in structure the flower is more like O. crassifolia than is O. graminifolia, as is apparent on comparing the three figures cited. The habit of O. crassifolia and O. Baueri is not shown in Bauer's figure, but both are larger plants, without a climbing stem, and with numerous flowers in a fascicle.

R. A. ROLFE.

REVIEW OF BOOK.

Die Orchidaceen von Deutsch-Neu-Guinea. Von Dr. Rud. Schlechter. Berlin-Wilmersdorf: Selbstverlag des Herausgebers, Weimarischstr. 31.

The first two parts of a work on the Orchids of German New Guinea, by Dr. R. Schlechter, have just reached us, and form a very important contribution to the Orchid Flora of this large and remarkable island. During his recent trip to New Guinea special attention was paid by Dr. Schlechter to the Orchids, of which a very large collection was made. Analytical drawings of a single flower were also made from the living plants. The result was an enormous accession of new species, and an idea of how great was the proportion of novelties may be inferred from the fact that of 222 species dealt with in the two parts before us, no fewer than 159 are new, a proportion of over two-thirds. The arrangement adopted is that of the late Prof. E. Pfitzer, and the two parts issued, containing 160 pages, take us as far as the genus Oberonia (which is unfinished). Up to this point forty genera are dealt with, the greater part belonging to what, under the Benthamian arrangement, would be referred to Ophrydeæ and Neottieæ, these being followed by the Collabium, Cœlogyne and Microstylis groups. Microstylis is the largest genus dealt with, comprising 48 species, of which 39 are new. The introductory part is deferred for the present.

Glancing through the parts before us, we note that the Apostasieæ are excluded, the author regarding them as comprising a distinct Natural Order, and thus the work commences with Paphiopedilum, the single species found in German New Guinea being an ally of P. javanicum, which is described as new, under the name of P. violascens. It was found in three localities, at 1,000 to 1,300 metres elevation, flowering in May and June. Habenaria includes 22 species, twelve of which are new, while Platanthera and Disperis each contain a single species.

Passing to the genera included by Bentham under Neottieæ, we find 27 here included, with an aggregate of 107 species, of which 79 are new. Here the remarkable genus Corysanthes heads the list, with thirteen species, all of which are new, Zeuxine coming next with eleven, eight being new. Vanilla and the allied saphrophytic genus, Galeola, are each represented by three species, all being new. The Collabium group is represented by Chrysoglossum, Collabium, Mischobulbum (a new genus), and Tainia, the former with two species, the rest with one. Then follow Cœlogyne with five species, two being new, Dendrochilum with one, and Pholidota with four species, only one of which was previously known. Microstylis we have already mentioned, and Oberonia, being unfinished, may be left for the present.

The succeeding parts will contain more of the cultivated genera, and it

seems not unlikely that some interesting novelties remain to be introduced. We are glad to note that the author gives the station and altitude at which the species were found, as well as the localities and time of flowering, and these should be of great service in the event of the species being introduced to cultivation. Future parts of the work will be awaited with interest.

THE AMATEUR'S COLLECTION.

By C. ALWYN HARRISON.

COOL HOUSE.

THROUGHOUT this and the following months the requisite temperatures can only be maintained by the use of fire heat. The thermometer should not be allowed to descend below 45° Fahr., except in severe weather. It should register between 50° and 55° Fahr. during the day in sunny weather. If the thermometer falls below the specified degree no water must be given to the plants until the correct temperature is again attained. During this and the following months the water used for direct application to the plants should be tepid. Damping-down on fine days should be done about 9 a.m. and 3 p.m.; but only once, about mid-day, when the weather is dull and chilly. It is advisable to look over the stock of plants daily, and only give water to those growing plants which require it. Any in bud or flower will usually need water once a day; those in full growth, every alternate day, whilst for those at rest, once every week or ten days will be sufficient.

As soon as the flower-spikes of Odontoglossums or Oncidiums attain the length of a few inches they should be tied to sticks, and a piece of cotton wool wrapped round their base, to prevent their being eaten by slugs. All resting plants should now be placed at the coolest end of the house, together with those in flower, whilst those in full growth should be grouped together at the warmest end. The late-flowering type of Odontoglossum grande is now in spike, and should be fed with weak liquid cow-manure twice a week.

The house should now be gay with the winter-flowering Oncidiums, such as O. crispum, tigrinum, Forbesii, and varicosum, with various hybrid Odontoglossums and Cymbidium Tracyanum. At this season of the year it is unwise to attempt the re-potting of any Orchid, but now is a good time to prepare the various composts for later use. Any plant, however, may be top-dressed with a thin layer of sphagnum moss, providing that the roots are not disturbed in any way. The leaves of the plants should be sponged once a fortnight with pure tepid rain-water, and should fogs prevail the roof glass should be washed immediately after it has cleared away.

CATTLEYA HOUSE.

Most of the cultural remarks mentioned above are applicable to the inmates of this house, the only exception being that a higher temperature is required. The temperature should register between 60° and 65° Fahr. by

day in bright weather, whilst at night it should not be lower than 53° Fahr. The bottom ventilators should be open whenever the weather and the internal temperature of the house allow of a little air being admitted. If possible, change the atmosphere daily. This applies equally to the Cool house. The flowers of Cattleyas and their allies are very delicate, and are easily injured by fog. Therefore on the appearance of this the ventilators should be closed, the floors well damped, and the temperature raised a few degrees.

The various hybrids of Cattleya Dowiana aurea, Bowringiana, Hardyana, and labiata should now be in flower, together with C. Percivaliana, and a few early C. Trianæ. These should be placed at the warmest end of the house, and kept well watered. Vanda cœrulea, if in spike, should be placed at the warmest end of the house, and given as much light as possible. Dendrobiums which have finished resting, and whose flower buds are just visible, should be returned to the warmest end of the house, and given an increased supply of water. Any which have finished growing—this can be recognised by the non-appearance of fresh leaves at the apex of the bulbs—should be moved to the coolest end of the house, and water given every few days. The leaves of the inmates of this house should be sponged regularly, and any loose bulbs neatly tied.

SUGGESTED ADDITIONS.

ONCIDIUM TIGRINUM.—At this time of year there are few Orchids which make a brighter show in the Cool house than the above. It is a strong growing species, throwing up long branching spikes, which carry any number of flowers up to fifty. These individually are of good size, and last several weeks in full beauty. The sepals and petals are narrow, pale yellow in colour, but almost obliterated by thick bars of dark brown, and the lip is exceedingly broad, pure yellow, and of remarkable thickness. The whole flower emits a powerful scent of violets, and an individual bloom is suitable for a button-hole. The allied O. unguiculatum bears smaller but rather more numerous flowers.

ZYGOPETALUM MACKAYI.—This is a beautiful Orchid for the Cattleya house, and is now sending up long spikes of its handsome flowers, which, if kept cool and free from damp, will continue for many weeks in full beauty. In shape the blossoms bear a striking resemblance to the preceding, but the colour is very different, and in its growth the plant exhibits much dissimilarity. It makes large pseudobulbs, which bear leaves often a yard long. The flowers have a faint but pleasing scent. The sepals and petals are emerald green, barred with chocolate brown, the lip white, prettily pencilled and veined with deep violet blue. It is a comparatively cheap Orchid, and one which will do best at the shady end of the house, in company with the Cypripediums.

LÆLIOCATTLEYA VERELII.

THE history of Læliocattleya amanda and L.-c. Verelii, as recently given (pp. 216-218), and the suggestion that someone might prove the parentage of the latter (p. 361), has elicited a very interesting letter from Mr. T. L. Mead, Oviedo, Florida, accompanied by the photograph here reproduced. Mr. Mead remarks: "I notice your suggestion as to crossing Lælia Boothiana and Cattleya Forbesii. In October, 1902, I crossed a flower of L. Boothiana with pollen of C. Forbesii, C. Skinneri, and C. citrina. Four or five plants resulted, beginning to bloom in 1907, and all are evidently the

Fig. 43. LÆLIOCATTLEYA VERELII.

Forbesii cross. I send a coloured photograph for inspection. The lip is rather brighter than the photo would indicate, and in colour is much like L. Boothiana, but the sepals and petals are greenish white on first expanding, soon changing to pale lilac. Nearly all—perhaps quite all—the stems of my plants are two-leaved. All are smaller than L. Boothiana, and one quite dwarf, though it grows and flowers as freely as the others." This is very interesting, and although we have not seen an actual flower, we must regard the photograph as representing a form of L.-c. Verelii. Although

mixed pollen was used, it would appear that only that of C. Forbesii was effective. We cannot, of course, see the characteristic veining on the disc in a photograph, but the markings of the lip are presumably derived from C. Forbesii, and the shape and other details are sufficiently in agreement with L.-c. Verelii. We may add that the photograph has been very lightly tinted, to afford an indication of the colour, and this, of course, cannot be shown in the figure. The flower most resembles L.-c. Boothiana in shape, but the two-leaved bulbs indicate the influence of the other parent.

SOCIETIES.

ROYAL HORTICULTURAL.

A MEETING of the Royal Horticultural Society was held at the Royal Horticultural Hall, Vincent Square, Westminster, on November 7th last, when there was a remarkably fine display of Orchids, including nine medal groups, one being a Lindley Medal for a brilliant display of Dendrobium Phalænopsis, and the meeting was further distinguished by the first appearance of a hybrid between Odontoglossum and Oncidium, to which a Certificate of Appreciation was given. Other awards were two First-class Certificates and two Awards of Merit.

Orchid Committee present: J. Gurney Fowler, Esq. (in the Chair), and Messrs. J. O'Brien (hon. sec.), Sir Jeremiah Colman, Bart., Harry J. Veitch, Gurney Wilson, R. G. Thwaites, W. Thompson, G. F. Moore, T. Armstrong, A. A. McBean, W. Cobb, J. Charlesworth, J. E. Shill, J. Cypher, W. H. Hatcher, H. G. Alexander, A. Dye, C. H. Curtis, J. Wilson Potter, W. Bolton, R. B. White, J. S. Moss, de Barri Crawshay, C. Cookson, and C. J. Lucas.

G. F. Moore, Esq., Chardwar, Bourton-on-the-Water (gr. Mr. W. Page), staged a magnificent group, the principal feature being a series of about 80 splendidly grown plants of Dendrobium Phalænopsis, most of which had been in the collection for eighteen years. They showed great variation in colour, from the dark variety rubescens to the pure white variety hololeuca. The spikes were splendidly developed, and, arching over in the most graceful fashion, made a splendid display. There was also a fine lot of Cypripediums, noteworthy among them being C. insigne Sanderæ, C. The Baron, elatior, Niobe, Thalia, Actæus, Maudiæ, Boltonii, Leeanum, Fairrieanum, and others, with a handsome Miltonia Bleuana, Oncidium varicosum, Lælia pumila, Dendrobium superbiens, &c. The group was noteworthy in every respect, and a Silver Lindley Medal was awarded.

E. R. Ashton, Esq., Broadlands, Camden Park, Tunbridge Wells (gr. Mr. A. Young), staged a fine group of well-grown plants, including a fine plant of Cattleya Phrygia (Portia × Enid), bearing a six-flowered spike, the sepals and petals being rose-purple, with an open richly-coloured lip, C.

Dusseldorfii Undine, C. Luegæ, C. Fabia, C. F. alba, C. fulvescens × Harrisoniana, most like the former, C. Williamsiæ, some good C. labiata, good examples of Læliocattleya Statteriana, Rothschildiæ, Golden Oriole, Russelliana (L.-c. Wellsiana × C. Dowiana aurea), a richly-coloured hybrid, Brassocattleya Leemanniæ, Vanda Kimballiana, Epidendrum vitellinum, Oncidium Forbesii, O. varicosum, &c. (Silver Flora Medal).

His Grace the Duke of Devonshire, Chatsworth (gr. Mr. Jennings), sent a branch of Renanthera coccinea, bearing a large panicle of its brilliant crimson flowers, a Vote of Thanks being accorded.

Mrs. Norman C. Cookson, Oakwood, Wylam-on-Tyne (gr. Mr. H. J. Chapman), sent Cypripedium A. J. H. Smith (Hera × niveum), a pretty little hybrid, most like the latter in shape, but having the upper halves of the petals light purple, and much dotting of similar colour on the dorsal sepal; also the pure white Calanthe Harrisii, C. Angelæ, bearing two fine spikes of intense dark crimson flowers, and two others which gained Awards.

E. H. Davidson, Esq., Borlases, Twyford, sent Cypripedium Venus and Odontioda Dora, with deep scarlet flowers.

The Rev. J. C. B. Fletcher, Mundham Vicarage, Chichester, sent flowers of Epidendrum Harrisoniæ, Catasetum Gnomus, and a form of Bulbophyllum Medusæ with unspotted flowers.

J. Gurney Fowler, Esq., Glebelands, South Woodford (gr. Mr. J. Davis), sent a spike of Cymbidium Tracyanum bearing twelve fine flowers, and a remarkable new generic hybrid (see Awards).

F. Du Cane Godman, Esq., South Lodge, Horsham, sent Sophrocatlælia Alice (Sophrolælia heatonensis × Cattleya Pittiæ), a pretty rose-purple hybrid.

W. R. Lee, Esq., Plumpton Hall, Heywood (gr. Mr. Woodhouse), showed Cypripedium Hannibal and C. King George, both very finely-grown and handsome hybrids.

C. J. Lucas, Esq., Warnham Court, Horsham (gr. Mr. Duncan), sent the beautiful Brassocattleya Maroniæ var. White Queen.

Francis Wellesley, Esq., Westfield, Woking (gr. Mr. W. Hopkins), sent Cattleya Olaf (labiata alba × Parthenia Prince of Wales), having white flowers, with some rosy veining on the lip in front of the yellow disc.

Sir Jeremiah Colman, Bart., V.M.H., Gatton Park, Reigate (gr. Mr. J. Collier), sent Cattleya labiata cœrulea, bearing a spike of four flowers, distinctly suffused with slate blue.

J. Gurney Wilson, Esq., Glenthorne, Haywards Heath, sent a spike of Cattleya labiata in which the sepals were all petal-like in shape, and the adjacent inner halves of the lateral sepals lip-like in colour. Both the flowers were alike, and the peculiarity is said to be constant.

Messrs. Charlesworth & Co., Haywards Heath, staged a choice group, including the striking Stanhopea convoluta (Rolfe), Zygopetalum Gautieri, some fine examples of Vanda cœrulea, Pescatorea Roezlii superba with three flowers, a species of Promenæa with clear yellow flowers, a light-coloured form of Mormodes Cogniauxii, Odontioda Craveniana, O. Bohnhofiæ, O. chelseiensis, some good Cattleya Fabia and C. labiata, C. Dowiana aurea, Læliocattleya Alcyone. L.-c. Myrrha, Liparis longipes, Brassocattleyas, Cypripediums, Miltonioda Harwoodii, &c. (Silver Flora Medal).

Messrs. James Cypher & Sons, Cheltenham, staged a fine group, including Cypripediums Gaston Bultel, Priam, Baron Schröder, Niobe Westonbirt var., Germaine Opoix, Sir Redvers Buller, Tityus superbum, some good forms of C. insigne, Leeanum, Thalia, and others, Dendrobium Phalænopsis and formosum, Phaius Ashworthianus, Oncidium Forbesii, O. varicosum and O. ornithorrhynchum album, Lycaste Skinneri alba, Stanhopea eburnea, &c. (Silver Floral Medal).

Messrs. Sander & Sons, St. Albans, staged a very fine group, including a lot of the brilliant Cattleya Fabia, C. labiata, C. luteola, C. Davisii, C. Dowiana aurea, C. Pittiæ, C. spectabilis (bicolor × Frederickiæ) a very handsome hybrid, two fine plants of Dendrobium Sanderæ, D. Phalænopsis, D. formosum, Læliocattleya Decia and Statteriana, Brassia longissima, Acineta Moorei (Rolfe), Gongora galeata, Bulbophyllum Careyanum, the rare Phragmopedilum Schomburgkianum, Cypripedium triumphans, C. Franconia, C. San-Arthur, C. Baron Schröder, &c., with a handsome Cattleya which is mentioned under Awards (Silver Flora Medal).

Messrs. Hassall & Co., Southgate, sent a good group, including fine varieties of Cattleya labiata and C. Fabia, C. F. alba, C. Minucia, C. Hardyana, Sarcopodium Cœlogyne, Cypripedium Thalia Mrs. Francis Wellesley, C. insigne Gladys and Harefield Hall var., C. Niobe &c. (Silver Banksian Medal).

Messrs. J. & A. A. McBean, Cooksbridge, staged a pretty little group, including Læliocattleya Myrrha, Rothschildiæ, Dendrobium Phalænopsis, D. P. hololeucum, Rodriguezia pubescens. Zygopetalum Perrenoudii, Oncidium Forbesii, Odontioda Charlesworthii, Maxillaria grandiflora, a fine specimen of Cypripedium insigne Sanderæ with fifteen flowers, Cattleya suavior, C. Hardyana, C. Mantinii, C. Portia, and another handsome Cattleya which is mentioned under Awards (Silver Banksian Medal).

Messrs. Stuart Low & Co., Bush Hill Park, staged a bright group, containing some good Cattleya labiata, C. Fabia, C. Armstrongiæ, C. Loddigesii, Vanda cœrulea and Kimballiana, Cycnoches chlorochilon, Oncidium Lanceanum, crispum, trulliferum, varicosum, and oblongatum, Rodriguezia pubescens, Miltonia Roezlii alba, Cypripedium œnanthum superbum, C. Fairrieanum, &c. (Silver Banksian Medal).

Messrs. Armstrong & Brown, Tunbridge Wells, staged a small group, including a fine Odontoglossum spectabile with a branched panicle, Cattleya Fabia magnifica, Sarcopodium Cœlogyne, Cirrhopetalum appendiculatum, Cypripedium Actæus Bianca, insigne Bohnhofianum, Thalia Mrs. Francis Wellesley, insigne Gladys, Germaine Opoix, Mrs. Spender Clay, elatior, Dreadnought, Dallas superbum (Curtisii × Fairrieanum), Bulbophyllum Godseffianum, and other good things (Bronze Banksian Medal).

Mr. E. V. Low, Vale Bridge, Haywards Heath, sent Cymbidium erythrostylum, Læliocattleya Decia alba, Cypripedium Thalia, C. Germaine Opoix, C. Gaston Bultel, Cattleya labiata W. R. Lee, a pretty white form with a tinge of pink on the front of the lip, and C. labiata G. G. Whitelegge, a fine white form.

Mr. G. W. Miller, Clarkson Nurseries, Wisbech, sent Cypripedium Sallieri aureum, C. Marjorie, C. Curtisii, C. Ossulstonii, C. longwoodense, and C. Clarksoniæ (Actæus × insigne Laura Kimball), a most beautiful clear yellow hybrid, and an improvement on the pollen parent.

FIRST-CLASS CERTIFICATES.

CALANTHE COOKSONIÆ (C. × Harrisii × vestita oculata gigantea).—A large and very beautiful pure white hybrid, and a great improvement on C. Harrisi. Exhibited by Mrs. Norman C. Cookson.

CATTLEYA ASHTONII ALBA (Harrisoniana alba × Warscewiczii).—A very fine white form, with a yellow disc to the lip. Exhibited by Messrs. Sander & Sons.

AWARDS OF MERIT.

CATTLEYA VENUS LUTESCENS (Iris × Dowiana aurea).—A very large and beautiful form, closely resembling C. Iris in shape, and having clear yellow sepals and petals, and a broad rose-purple lip. Exhibited by Messrs. J. & A. A. McBean.

CYPRIPEDIUM SIBYL SUPERBUM (Francisiæ × Fairrieanum).—A large and handsome hybrid, with white dorsal sepal, tinged and striped with rose purple above the green base, and the drooping petals yellowish green closely spotted with purple-brown. Exhibited by Mrs. Norman C. Cookson.

CERTIFICATE OF APPRECIATION.

ODONTOCIDIUM FOWLERIANUM (Odontoglossum cirrhosum × Oncidium FORBESII).—A new and very interesting generic hybrid, bearing a spike of six flowers, having rather narrow lanceolate yellow sepals and petals, barred with brown, and a broad pandurate light yellow lip with some chesnut-red markings in front. Exhibited by J. Gurney Fowler, Esq.

MANCHESTER AND NORTH OF ENGLAND ORCHID.

At the meeting held at the Coal Exchange, Manchester, on November 2nd, 1911, the members of Committee present were: Rev. J. Crombleholme

(in the chair), R. Ashworth, J. Bamber, W. R. Lee, C. Parker, G. H. Peace, H. Thorp, *Z.* A. Ward, J. C. Cowan, J. Cypher, W. Holmes, A. J. Keeling, D. McLeod, W. Stevens, and H. Arthur (Secretary).

Z. A. Ward, Esq., Northenden (gr. Mr. Weatherby), exhibited a fine group of over 150 plants, to which a Silver-gilt Medal was awarded, a special feature being a mass of fifty Cypripedium insigne Sanderæ, with other insigne varieties, including Dorothy, Wm. Millie Dow, Harefield Hall var., Perfection Ward's var., and Chantinii Lindenii. There were also C. Actæus Ward's var. aud C. Venus, and amongst the Cattleyas were noticed C. Armstrongiæ Ward's var., C. Armstrongiæ var. Mrs. Ward, C. Williamsiæ, and C. Mrs. Pitt, with Læliocattleya Ella.

W. R. Lee, Esq., Heywood (gr. Mr. Woodhouse), was also successful in obtaining a Silver-gilt Medal for a nice group, consisting of Cattleyas and their hybrids, Cypripediums in variety, and a nice batch of Dendrobium Phalænopsis. In the Cattleya section were C. labiata W. R. Lee, a fine white variety, C. l. Hélène, C. Mantinii, C. John Baguley, C. Adula Wivelspool var., Læliocattleya Elva, Lælia Bella (majalis × purpurata), and Sophrocatlælia Olive. The Cypripediums included King George, Hannibal, insigne Bohnhofianum, Leeanum Balliæ, Charlesianum Cypher's var., and San Actæus.

O. O. Wrigley, Esq., Bury (gr. Mr. Rogers), exhibited a very pleasing group, and was awarded a Special Vote of Thanks; a very nice lot of Dendrobium Phalænopsis, including the variety album, with two fine spikes, Epidendrum vitellinum majus, Cattleya labiata and hybrids, and a magnificent plant of Odontoglossum crispum, with a spike almost 4 feet long, and carrying 28 large flowers.

J. McCartney, Esq., Bolton (gr. Mr. Holmes), was awarded a Silver Medal for a group, including Cattleya Fabia var. Prince John, C. Dowiana aurea, C. gigas, C. labiata in variety, and Brassocattleya Maroniæ, with Cypripediums villo-Rothschild, insigne Laura Kimball, Youngianum superbum, and Odontoglossum grande.

Col. J. Rutherford, M.P., Blackburn (gr. Mr. Lupton), was awarded a Bronze Medal for a group, consisting of Cattleya labiata and hybrids, also a nice form of C. Dowiana aurea, and Cypripediums in variety.

Rev. J. Crombleholme, Clayton-le-Moors (gr. Mr. Marshall), was also awarded a Bronze Medal for a nice group of Cypripediums, the most noticeable being Chapmanii, Actæus revolutum, Lord Ossulston, Mdme. Jules Hye, exquisitum, and insigne Sanderæ.

R. le Doux, Esq., West Derby (gr. Mr. Fletcher), staged Cattleya labiata alba, var. Richard le Doux, to which a First-class Certificate was granted.

Wm. Thompson, Esq., Stone (gr. Mr. Stevens), showed Cypripediums

Pyrrha Thompson's var., Baron Schröder Armstrong's var., Grittleton (Stevensii × Thompsonii exquisitum), and an unnamed variety of C. Spicerianum × Thompsonii, along with a fine form of Odontoglossum crispum hololeucum Walton Grange var.

J. J. Holden, Esq., Southport (gr. Mr. Johnson), staged very fine examples of Cattleya Harrisoniana alba, carrying two flower spikes; Cypripedium Gaston Bultel Holden's var., with two very fine flowers; C. Germaine Opoix, also well grown, and Odontoglossum eximium, carrying a good spike of well-marked flowers.

G. H. Peace, Esq., Monton Grange (gr. Mr. Mace), exhibited a fine plant of Oncidium ornithorrhynchum album, carrying several good spikes.

J. H. Craven, Esq., Keighley (gr. Mr. Corney), staged very fine examples of Cypripedium eboriacum, Germaine Opoix, Gaston Bultel, Corneyanum, and San Actæus, Craven's variety.

Messrs. J. Cypher & Sons, Cheltenham, were awarded a Silver Medal for a very nice mixed group, several plants of Cattleya Fabia, Brassocattleya Thorntonii, Oncidium Forbesii, Vanda cœrulea, and the interesting Dendrochilum Cobbianum, with Cypripediums insigne Sanderæ, C. i. Harefield Leeanum magnificum, Actæus, Maudiæ, Niobe superbum and Arthurianum pulchellum.

Messrs. A. J. Keeling & Sons, Bradford, showed Cypripedium Mellone (Hitchinsiæ × insigne Chantinii), along with several others, and a plant of Cochlioda Nœtzliana × Odontoglossum ardentissimum.

Messrs. Charlesworth & Co., Haywards Heath, had Cattleyas Rothschildiana alba and C. Bola, with Læliocattleya G. G. Whitelegge, and several others.

Messrs. Stuart Low & Co., Bush Hill Park, staged four fine plants of Cattleya × Fabia, very distinct, and a nice form of Læliocattleya Ophir × Cattleya Dowiana aurea.

Messrs. Hassall & Co., Southgate, had a pretty exhibit of Hybrid Cattleyas.

FIRST-CLASS CERTIFICATES.

Cattleya labiata alba, var. Richard le Doux, from R. le Doux, Esq., a very fine variety and large flower.

Oncidium ornithorrhynchum album, from G. H. Peace, Esq., the pretty albino of the species.

Cattleya labiata, var. W. R. Lee, from W. R. Lee, Esq., a very good albino form.

AWARDS OF MERIT.

Cattleya labiata, var. Helene, and Lælia Bella (majalis × purpurata), a very fine flower, intermediate between the two parents, and charming in colour, both from W. R. Lee, Esq.

Cattleya Armstrongiæ, Ward's var., C. Armstrongiæ, var. Mrs. Ward, and C. Williamsiæ (Gaskelliana alba × Harrisoniana); Cypripedium Perfection, Ward's var., and C. Actæus, Ward's var., all from Z. A. Ward, Esq.

Cattleya Fabia, var. Prince John, from J. McCartney, Esq., a fine flower, of good colour, with intense lip.

Cypripedium Pyrrha, Thompson's var.; C. Grittleton (Stevensii × Curtisii exquisitum), and C. unnamed (Spicerianum × Thompsonii), with Odontoglossum crispum hololeucum, Walton Grange var., a magnificent flower, all from Wm. Thompson, Esq.

ORCHIDS IN SEASON.

WE have received from the collection of Mrs. Ardern, Bonis Hall, near Prestbury, Macclesfield (gr. Mr. A. Oliver), flowers of two beautiful Cattleyas, which were purchased from the Briggs-Bury collection as seedlings from C. Dowiana aurea × Harrisoniana. They are forms of C. Pittiæ, and have the usual light rose-purple sepals and petals, with a paler undulate lip, and some yellow in the throat. One is considerably paler than the other, and both are likely to develop into good things. A light-coloured form of Cymbidium Tracyanum is also sent, and this is said to be from a plant which has been in the collection for fourteen years, and has not previously flowered.

Cattleya Venus var. King Manoel is a very handsome hybrid from the collection of W. P. Burkinshaw, Esq., The West Hill, Hessle, E. Yorks, (gr. Mr. J. T. Barker). It has broad, buff yellow sepals and petals, and a nearly entire, undulate, and deep purple-crimson lip.

Three handsome flowers are sent from the collection of W. Waters Butler, Esq., Southfield, Norfolk Road, Edgbaston. The first is a beautiful form of Cattleya labiata, with bright rose-purple sepals and petals, and the front lobe of the lip purple-crimson, with the usual yellow disc. The next is a fine form of Læliocattleya Truffautiana (luminosa), having bronzy yellow sepals and petals, and a bright purple lip, with a darker throat. The third is a very interesting addition to the small company of Cattleya citrina hybrids, as follows :—

CATTLEYA BUTLERI (C. citrina × C. Schilleriana)—A striking novelty, closely resembling C. citrina in the general shape of the flower, and in the subconnivent rather fleshy sepals and petals, which are deep bronzy yellow in colour. The lip shows more of the characters of C. Schilleriana, being strongly three lobed, and the side lobes broad, acute-angled, and light buff in colour, with several short rosy lines radiating on the disc, while the front lobe is broadly obovate, and yellowish, suffused with rose. We should like to know what the habit of the plant is like.

DISA LONGICORNU.

FROM a cultural standpoint the majority of the Disas are not regarded with much favor, but a few species, among which D. uniflora (grandiflora) is naturally pre-eminent, are certainly worthy of culture. Such are D. Harveiana, D. Draconis, D. venusta, and D. longicornu, of which the latter, by its exquisite colouring and unique form, compels universal admiration. It appears to have flowered for the first time in this country in 1895, in Sir Trevor Lawrence's collection, when it received an Award of Merit. It is a native of the Cape, revelling in the moss-grown chinks of wet rocks on Table Mountain, at an altitude varying from 2,000 to 3,400 feet, where in the sunny months of November its large pale lilac-blue or French-grey, delicately-veined flowers, borne singly on short slightly curved peduncles,

Fig. 43. A BUNCH OF DISA LONGICORNU (half natural size).

afford a pleasing spectacle. Thunberg, who discovered the species in January, 1773, relates the incident very graphically (*Travels*, Engl. ed. i. p. 220). "Having got to the top," he remarks, "we were recompensed for our trouble by a number of rare plants, especially of the Orchideæ. . . . Among these the Orchis grandiflora, or Disa uniflora, was conspicuous by its beautiful flowers; . . . the Serapias melaleuca was distinguished by its black and white flowers, the most uncommon in nature: and with great difficulty, and at the hazard of my life, I got for the first and last time the blue Disa longicornis, which is as beautiful as it is singular in its form. This last plant grew in one spot only, on a steep rock, and so high up, that in order to come at it, after we had clambered up the side of

the rock as high as we could, I was obliged to get upon the shoulders of my companion M. Sonnerat, when, with a long stick, I beat down five of these plants, the only specimens that were then in bloom. M. Sonnerat, who before had not had an opportunity of collecting as many plants at the foot of the mountain as I had, made in this one day only a collection of 300 different species, but was so singularly unfortunate, though he had brought with him three pairs of shoes for this excursion, as to return to town barefooted. . . . Your thin French pumps are by no means suited for excursions upon the mountains."

Formerly the species was regarded as peculiar to Table Mountain, but latterly it has been discovered in the Stellenbosch Mountains. Unlike D. uniflora, it loses its leaves usually after flowering, and this would suggest a resting period in its culture.

Cultivators on the look-out for novelties should endeavour to secure the albino form of D. uniflora, which has occurred spontaneously among the normal type on Table Mountain within recent years. The flowers are as large as in the normal form, but the colour is a pure sulphur yellow, without the faintest trace of red. R.D.

CALENDAR OF OPERATIONS FOR DECEMBER.

By J. T. BARKER, The West Hill, Hessle, E. Yorks.

WE have now arrived at the darkest and dullest part of the year as regards climatic conditions. The days are short and the nights long; therefore it is an absolute necessity that our plants should enjoy all the light possible to consolidate their growths, and that the glass of the various houses should be kept as clean as possible. In some localities this will require much more attention than in others; in some cases it may require to be done outside every week, and in others, where they are entirely free from smoke, twice during the winter months will suffice, but in no case should the detail of light be neglected.

TEMPERATURES should now be brought down to the winter figures—namely, those given in the January number.

WATERING AND VENTILATION.—The remarks made last month as regards these two items should be strictly adhered to, as it is obvious that if the conditions of the various houses do not suit the inmates they must suffer, just as we ourselves suffer when placed under unhealthy conditions.

POTTING.—Very few plants will now require re-potting, but if at all out of condition, do not hesitate to turn them out. The only thing to guard against afterwards is over-watering. It is astonishing how soon a plant will push new roots into new compost if kept in a proper condition. It is always desirable at this season to keep a stock of the various fibres and other articles that go to make up the various composts, as often in the New

Year it is not possible to obtain them when required, and, if you do get them, they are often out of condition.

PLEIONES.—As the different varieties pass out of bloom, they should at once be re-potted, as much injury will be done to them if the green shoots, from which the flowers have sprung, are allowed to push roots before they are repotted. These roots are very tender and easily broken, and therefore it is quite obvious why they should be taken in hand at once. These plants succeed best grown suspended close to the glass in the Cattleya house. They will succeed in the compost recommended for the green-leaved Cypripediums in previous numbers. Care must be taken that they do not get an excess of water until they get re-established, and the new roots are moving nicely in the new compost. The later-flowering varieties, such as P. humilis and those which flower in January and February, should have sufficient water to prevent them from shrivelling.

MILTONIA VEXILLARIA AND BLEUANA.—These two delightful Orchids are now in active growth, and should be elevated on a temporary stage to within a foot of the glass, in a moderately damp position in the warm Cattleya house. Water should be applied to these plants at this season with great caution, and they should be allowed to get dry between each operation. Black tips to the leaves are a sure indication that they have received too much water. Often at this season the weaker and smaller plants will throw up their growths folded together, and these must be carefully liberated, or the new growth will be deformed. See, also, that the sheath around the base of the new growth does not hold water, or prevent the new roots from entering the new compost. I make it a rule to remove them as soon as possible, as I think they are often the means of preventing the new growths from swelling as freely as they should.

LÆLIA PUMILA and its hybrids, as they pass out of flower, may have attention, should they require it, using the Cattleya compost. They delight in small, shallow pans, and should not have much compost placed around them. They require at this season of the year a position at the coolest end of the Intermediate house, and only enough water to keep them plump should be given.

CATTLEYAS AND LÆLIOCATTLEYAS.—Many of these floral gems will now be in flower, and at this season their flowers are most valuable, and should be taken the greatest care of. If a house can be set aside for plants in bloom, where the atmosphere can be kept drier than in the houses where they have been grown, the flowers will last much longer. Great care must be taken that the temperature of the house or houses in which flowering plants are staged is not allowed to go below the lowest figures, or many flowers will be spotted and ruined. Plants of C. Warneri and others now showing signs of activity, by making new roots and growths, should be

encouraged, by being placed close up to the glass, and kept in a fairly moist condition.

CYPRIPEDIUMS of the cooler section, are perhaps among the most useful of winter-flowering plants, and for ease in culture and duration of flowers, have no equals. Where a fair quantity of these plants are grown, the cultivator will reap his reward for the work and trouble bestowed upon them during the growing season. These plants are never inactive at any season of the year, so that they should never be allowed to remain dry at the roots for any considerable length of time, or much injury will accrue to them. Excessive application of water to the soil during the winter months should also be avoided. A moist atmosphere must be maintained, but care must be taken to prevent it becoming saturated, especially towards the evening or at night.

SOPHRONITIS GRANDIFLORA.—This little gem is now in bloom, and its brilliant flowers are always appreciated. The flowers are produced on the partly-made pseudobulbs, and care should he taken that no water lodges in the crown of the growth, as it may set up decay of the flower spike and the new growth. Until the flowers are produced, the plants may be afforded water at the roots whenever they are seen to require it. Plants needing new rooting material may have attention when new roots are seen to be pushing from the new growth. These remarks also apply to the hybrids of Sophronitis grandiflora, which include some of the most beautiful Orchids in existence. Many of them have the character of being bad growers, but to my mind it is only a question of finding a place to suit them, and the ability to meet their requirements. The powers of observation are a great asset to the Orchid grower, as even plants of the same species vary in their requirements according to their condition.

COCHLIODAS and their hybrids are all growing freely, and should be given a light position in the Cool house, with plenty of water at all seasons.

DENDROBIUMS.—Plants of D. Wardianum, D. crassinode, and any other varieties that are now showing their flower buds, should be kept in the Cool resting house for the present, but when the buds become more prominent the plants may be removed to the Cattleya house. Water must be afforded carefully, only just sufficient being given to prevent them from shrivelling, or the young shoots that develop at the base of the pseudobulbs will grow too quickly, and in many cases the crop of flowers will be lost.

TRICHOSMA SUAVIS.—This neat and compact-growing plant, having now passed its flowering season, may be repotted, using the compost recommended for Cypripediums. It is a strong grower, and requires a shady position in the Intermediate house. Wherever scented flowers are appreciated, it is worth growing.

CALANTHES.—By this time the deciduous Calanthes will be in full bloom, and their long, graceful spikes will be a great attraction. Unfortunately they are not able to withstand fogs, and where these are persistent it is disheartening to attempt their cultivation. The plants from now onwards will need little or no water, and after the spikes are cut, they may be placed on a shelf, or in a dry, warm place to rest.

ZYGOPETALUMS are now growing freely, and will require water whenever they become dry at the roots. *Z.* Mackayi produces its flower spikes at this season, and will need extra water until the flowers are open. When the flowers are over the plants may be repotted, using the compost recommended for the green-leaved Cypripediums.

CATASETUMS, CYCNOCHES AND MORMODES.—These deciduous Orchids require a decided rest in a warm house, and when the leaves turn yellow and fall, the plants should have only enough water to prevent shrivelling. When the pseudobulbs are properly ripened, it can be withheld altogether for some time.

CHYSIS.—The different species of Chysis rest well in the Cattleya house, if kept dry at the root. When growth recommences, do not afford much water, until the flower spikes are seen to be pushing up with the new growth.

THUNIAS will by now have lost their leaves, and the old pseudobulbs, having shrivelled up, should be cut clean away. The new pseudobulbs, if there be any signs of brown or other scale, should be carefully cleaned with some approved insecticide. They may then be placed away to rest until they show signs of growth in the spring.

GENERAL WORK.—The cleaning of the houses and their inmates will be the principal work demanding our attention during the present month. It should be made a practice to thoroughly overhaul the Orchids and wash the houses, both inside and out, taking care that the slimy matter, which accumulates between the laps of the glass, is removed, as this allows the atmospheric moisture that condenses to pass away, and so prevents drip. All walls, stages, &c., should be well cleansed. Previous to re-arranging the plants, each one should be thoroughly cleaned, sponging the leaves, stems, and pseudobulbs with some approved insecticide. This we make a practice of doing every time the plants are re-arranged. As far as possible we dip the plants entirely overhead, and then clean them in the usual way. We have never seen any ill effects from the use of insecticide in this way. I may also state that we always use it fairly warm, and, if anything, a little under the strength recommended.

SLUGS, COCKROACHES AND WOODLICE must be continually hunted. It is needless for me here to repeat the different methods of waging warfare against these pests, as they have been frequently given in these pages.

I will close my notes for this year with the following remarks. To reap success in Orchid culture, the cultivator must attend to the smaller details, observing the condition of his plants in the different positions allotted to them, as plants often do better in one position than in another. In this way our plants seem to speak to us, and one is often enabled to cultivate a plant successfully which hitherto has been refractory. In all branches of our profession there is always something to learn, to those who will learn.

ORCHID NOTES AND NEWS.

THE next meeting of the Royal Horticultural Society will be held at the Royal Horticultural Hall, Vincent Square, Westminster, on December 5th, when the Orchid Committee will meet at the usual hour, 12 o'clock, noon. There will be no Show on December 19th, but the Orchid Committee will sit upstairs at the usual hour, when plants submitted for Certificate will be received and adjudicated upon.

Meetings of the Manchester and North of England Society will be held at the Coal Exchange, Manchester, on December 14th and 28th. The Committee meets at noon, and the exhibits are open to the inspection of members and the public from 1 to 4 p.m.

PROPOSED ORCHID SHOW AND CONFERENCE.—At the meeting of the Orchid Committee of the Royal Horticultural Society on November 7th, the Chairman, Mr. J. Gurney Fowler, stated that several Orchidists had expressed opinions to the effect that an Autumn Orchid Show and Conference were desirable, and he wished to have the opinion of the Committee in order that he might bring the matter before the Council. The members of the Committee unanimously agreed that the project ought to be carried out, and the majority voted for the first meeting to take place in November, 1912.

Mr. E. V. Low, Vale Bridge, Haywards Heath, informs us that Mr. H. Cheal, who for some time has represented him as traveller, has ceased to do so since Saturday, November 11th last.

R.H.S. SCIENTIFIC COMMITTEE.—The following references to Orchids exhibited are taken from the Official Report (continued from page 288).

August 29, 1911:—

ADIODA ST. FUSCIEN.—This new bigeneric hybrid (Cochlioda Nœtzliana × Ada aurantiaca) was exhibited by Monsieur Henri Graire, of St. Fuscien, Amiens.

BRITISH ORCHID HYBRID.—Mr. Botting Hemsley showed a figure of a British Orchid found on Reigate Hill in the third week of April last. It had three spurs, no pollen, and many other abnormalities. It was some-

what like Habenaria viridis, but the labellum rather more resembled that of an Orchis. It was apparently a hybrid, and too abnormal to connect with any British species, whilst its early flowering appeared unaccountable.

September 13, 1911:—BULBOPHYLLUM ORTHOGLOSSUM.—Mr O'Brien drew attention to this uncommon species (figured in the *Gardeners' Chronicle*, June 20th, 1908, page 406), shown by Sir Jeremiah Colman, Bart., and which had been imported from the Philippine Islands.

October 24, 1911:—

CATTLEYA SORORIA, Rchb. f.—Mr. R. A. Rolfe exhibited a flower which had been raised in the collection of W. Evans, Esq., of Leicester, from C. Harrisoniana crossed with the pollen of C. bicolor, and remarked that it was identical with the natural hybrid, C. sororia, Rchb. f., and thus confirmed its supposed parentage, which was originally in doubt. He also exhibited for comparison paintings from the *Dictionnaire des Orchidées* of the two parents, remarking incidentally that the one figured as C. Harrisoniana was wrongly labelled C. Loddigesii, and that, in fact, the names of the two species had been transposed, as was sometimes the case in gardens.

LÆLIOCATTLEYA AMANDA, Rchb. f., and L.-c. VERELII, Rolfe.—Mr. Rolfe also exhibited flowers of these two natural hybrids, remarking that they were originally confused under the former name. The first, however, was from Lælia Boothiana and Cattleya intermedia, the latter from L. Boothiana and C. Forbesii, as was evident from the strong red veining on the disc of the lip. All three species were known to grow together in the neighbourhood of Rio de Janeiro. The two hybrids were in flower at Kew, that of L.-c. amanda being from a batch raised by himself by crossing L. Boothiana and C. intermedia, with a view to proving the parentage. Paintings of some of the plants in question were also shown.

November 7th, 1911:—

Octomeria sp.—Dr. Rendle reported that the Octomeria referred to him at the last meeting, and shown under the name Octomeria Baueri, did not agree with the figure given by Bauer. Mr. Rolfe recognised it as O. crassifolia, a Brazilian species, described by Lindley, with whose type specimen in the Kew Herbarium it agrees well.

INTERESTING ORCHIDS.—Mr. J. O'Brien showed some interesting Orchids on behalf of the Rev. J. C. B. Fletcher, including Bulbophyllum Medusæ, Catasetum Gnomus, Rchb. f., and a species of Epidendrum, which Mr. Rolfe later identified as E. Harrisoniæ, Hook. (*Bot. Mag.*, *t.* 8392), a native of Brazil, and a somewhat variable plant.

MALFORMATION OF CATTLEYA LABIATA.—Mr. G. Wilson showed flowers of Cattleya labiata, showing fixed peloria, produced on a plant which each year produces malformed flowers, though not always malformed in the same fashion as in the present case.

SPECIMEN OF CATTLEYA LABIATA.—We have received from Mr. W. A. Manda, South Orange, New Jersey, U.S.A., a photograph of what is considered to be the largest and finest Cattleya labiata in cultivation. It was imported two years ago, and consists of one mass, which this year has produced 146 flowers, the majority of them with four or five on a spike. The flowers are said to be very fine, and of deep, rich colour. The plant was photographed as it stood at the end of a twenty foot greenhouse, and the spread of the flowers is about six feet. The plant is in a perfectly natural condition, the flowers not having been tied up in any way, and it forms an exceptionally handsome specimen.

ORCHID PORTRAITS.

CALANTHE COOKSONIÆ.—*Gard. Chron.*, 1911, ii. p. 350, fig. 148; *Gard. Mag.*, 1911, p. 879, with fig.

CYPRIPEDIUM LUCIFER.—*Gard. Mag.*, 1911, p. 839, with fig.

CYPRIPEDIUM SIBYL SUPERBUM.—*Gard. Chron.*, 1911, ii. pp. 350, 351, fig. 149.

CYPRIPEDIUM SPECTABILE.—*Gard. Chron.*, 1911, ii. pp. 315, 316, fig. 137.

CYPRIPEDIUM THALIA.—*Journ. Hort.*, 1911, ii. p. 457, with fig.

DENDROBIUM THYRSIFLORUM.—*Journ. Hort.*, 1911, ii. p. 433, with fig.

LÆLIOCATTLEYA ST.-GOTHARD MCBEAN'S VAR.—*Gard. Mag.*, 1911, pp. 806, 819, with fig.

ODONTOCIDIUM FOWLERIANUM.—*Gard. Mag.*, 1911, p. 878, with fig.

ODONTOGLOSSUM CRISPUM KING GEORGE V.—*Journ. Hort.*, 1911, ii. p. 481, with fig.

RODRIGUEZIA BATEMANII.—*Garden*, 1911, p. 556, with fig.

ANSWERS TO CORRESPONDENTS.

[*Orchids are named and questions answered here as far as possible. Correspondents are requested to give the native country or parentage of plants sent. An* ADDRESSED *postcard must be sent if a reply by post is desired (abroad, reply postcards should be used). Subjects of special interest will be dealt with in the body of the work.*]

C.M.—Cattleya Adonis is the earliest name for the hybrid between C. Mossiæ and C. Warscewiczii, and you were quite right to adopt it (See *Orchid Stud-Book*, p. 52). We will look the other matter up and report.

J.F.S.—3, Polystachya cerea, Lindl.; 4, P. luteola, Hook.; 5, Camaridium ochroleucum, Lindl. The other two must stand over.

J.C.H.—Many thanks. A note is unavoidably postponed.

W.C.S.—Cattleya elongata. We see no trace of C. Dowiana aurea, and think that the cross could not have been effective.

R.B.—The flower failed to reach us.

Reports of two horticultural meetings, with several articles and notes, are unavoidably held over through pressure on our space, caused by the annual Index.

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